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East Europe Report

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AGRICULTURAL PRICE REFORM, COOPERATIVE PRODUCTIVITY REVIEWED

West Berlin DIW WOCHENBERICHT in German Vol 54 No 7, 12 Feb 87 pp 93-99

[Text] The GDR has long been a country with a definitely high level of producer prices for farm product. This has been the case even more since the farm price reform that took effect on 1 January 1984. At the time, producer prices were raised by a total of 52 percent at one fell swoop. As a consequence they became even more of a tool to encourage agriculture.(1) This price reform in the farm sector signified a change in emphases, because the rise in producer prices was accompanied by a cut in subsidies for means of production.

With the data for 1985 in hand, we have available the results of 2 years of the new price levels. We are therefore able to pinpoint the effects of the 1984 farm price reform—and minor corrections in 1986. We will describe them in the following, in connection with a longer range analysis of the development and structure of the producer prices and sales revenues of GDR agriculture.

Farm Policy Background

Farming in the GDR is just as much of a problem as in the FRG and other highly developed industrial societies. Agriculture is a sector of the economy that must be extensively subsidized in order to guarantee a large extent of autonomy with regard to food supplies—coupled with the objective of ensuring equality of incomes to the people working the land—, while the sector is suffering from backwardness with regard to productivity. Moreover, GDR agriculture—obligated to pursue industrialization (2)—has an enormous need for investments. Just as in the FRG, high producer prices for a guaranteed sales volume represent the main tools for the encouragement of agriculture.(3) Price reductions for previous work and total tax exemption for farm earnings also have an important role.

The GDR leaders decided quite early on to use the tool of high producer prices. This is reflected in a price comparison with the FRG: At the end of the war, prices were held at the same (1944) levels in both parts of Germany. By 1955, GDR prices were already 20 percent higher and roughly 40 percent higher by 1965.(4) From the very beginning, high prices were designed to

stimulate farm production—in the early years to safeguard food supplies as such, later to satisfy the steadily rising demand.

Agriculture had its own price level, exactly as did industry, the retail trade and the export trade. There is little if any interdependence between these price levels. While price increases were imposed in industry since 1976 (5), none occurred in agriculture. That applied to previous work for this sector as well as to its output. At the same time subsidies for farm capital equipment rose from M1 billion (1975) to M7.8 billion (1983). The worsening world economic situation since the first half of the 1970's and the failure of the expected advances in productivity through farm industrialization led in the early 1980s to the review of farm policy by GDR leaders.(6) They evidently decided in the course of this review—at least for the foreseeable future—to allow agriculture some breathing space with regard to industrialization and to stop the process of transformation that had been carried on with the slogan "the greater and the more specialized—the better." This involved (and not least) the gradual cut of farm investments by one third in the period 1981-1985 as well as renunciation of new large-size facilities for livestock production. The emphasis now is on modernization and replacement investments. While about 80 percent of all farm investments at the end of the 1970's were spent on new facilities, nowadays only 20 percent are earmarked for such purposes. Farm price reform must be considered as part and parcel of this adjustment: The sharp reduction in subsidies for previous work for farming are designed to adjust the producer price structure to production costs. This, in turn, is primarily intended to stimulate materials and cost savings.

The Course and Measures of Farm Price Reform

To compensate farm enterprises for basically having to pay industry prices for all previous work, they were granted price increases for their products. Moreover, the farm price reform also initiated a new tax system for agriculture. This was intended to better skim off differential ground rents (such as increased income due to better soil). State budget data reveal that agricultural taxes rose by M3.7 billion (to M5.1 billion) in 1984.(7) Consumer prices, on the other hand, were not to be affected by the farm price reform. This involved a shift of subsidies in the state budget—from agricultural capital equipment to food. The GDR's long established system of combining high farm producer prices with hefty subsidies of consumer prices was given even sharper outlines as a consequence of the 1984 farm price reform. It is a definite disadvantage of this price ratio that food prices even less than before reflect the costs of farm production, and that the large food subsidies result in even greater waste and abusive use as livestock fodder.

The shift of subsidies in the state budget is shown in the following cost headings:

Billion Marks

	1975	1983	1984	1985
Allocations to agriculture	3.0	11.4	4.2	6.2
Including:				
Subsidies for agricultural capital equipment	1.0	7.8	2.0	4.0
Food subsidies	7.2	12.1	20.6*	27.6

* Excluding the M5.5 billion extra revenue charges for dairy and grain farming recorded in the budget plan though not in the budget account.

GDR farm subsidies in 1984 may be estimated at M18 billion. This follows from the subsidies remaining in the aftermath of the farm price reform (1984: M4.2 billion) and the price subsidies shifted to the consumer level (difference against 1983: M8.5 billion) plus M5.5 billion extra revenue charges for dairy and grain farming shown in the 1984 state budget.(8) Fiscal subsidy intensity--relative to the work force but even more relative to output--is considerably greater than in the FRG.

Producer prices were raised by 52 percent in 1984. In terms of prices only, therefore, sales revenues rose by M13.5 billion that year. This corresponds to the total sales revenues achieved by GDR agriculture as a whole in the mid-1960's. As the sales volume increased in 1984, the actual rise in sales revenues amounted to M15.6 billion.

The GDR leaders intend in principle to maintain the same level of producer prices for several years. Mentioned in this connection is the end of the 5-year plan in 1990.(9) However, that does not exclude partial corrections. In 1985, for example, farm prices remained unchanged, but they were revised in 1986 because (10)

—Industry price rises for construction materials, construction services and fertilizer were temporarily suspended in 1985,

—Additional industry price increases and drops were occurring—for example for farm equipment, replacement parts and repairs,

—The 1984 reform had some undesirable effects.

Prices of the most important farm products were raised as of 1 January 1986 as follows: Grain by 7.9 percent, potatoes by 3.2 percent, sugar beets by 3.6 percent, lucerne by 5.7 percent, milk by 1.2 percent, fattened cattle by 10.1 percent, slaughter cows by 7.0 percent, slaughter pigs by 3.0 percent, fattened lambs by 2.1 percent and wool by 7.9 percent. If we take 1985 volume

as our basis, this means an average 4.8 percent price rise for plant products, an average 3.1 percent price increase for livestock products—in other words a total price increase of 3.4 percent. This implies M1.5 billion additional revenues. As the sales volume rose in 1986, the growth of farm revenues in fact amounted to approximately M2.5 billion.

These data clearly indicate two facts: On the one hand the 1986 changes certainly do not amount to a new farm price reform; they merely represent the further pursuit of the 1984 measures. On the other hand, the differences in the price rises of various products indicate the current intentions of farm policy: Above average price increases for grain are designed in the long run to stimulate output and replace grain imports.(11) Output incentives for beef production represent an effort to achieve a more satisfactory structure of meat consumption,(12) while above average rises in the price of wool are also meant to stimulate domestic yields. At the same time increased sheep stocks should serve to develop fodder reserves (additional and residual land use). Moreover, in the context of livestock production, sheep keeping represents the only category where performance growth is to be achieved by sharp increases in stocks. Lastly, animal husbandry is mainly expected to bring about better performances per livestock unit while stocks are to remain the same and specific fodder consumption is to decline.

Effects of the Farm Price Reform

On balance, the farm price reform was profitable for GDR agriculture. This is best demonstrated from the following figures: The extra earnings obtained as a result of the rise in producer prices (M13.5 billion) substantially exceeded the losses incurred in 1984 from cuts in subsidies and tax increases (M9.5 billion). Farm price reform thus provided farming with a greater net surplus. Admittedly, this result was never officially acknowledged nor stated to be the objective of the farm price reform. Indirectly, though, it was indicated by one or the other pronouncement—it was said, for example, that this measure was designed, among other things, to strengthen the "reproductive force" or "capacity for accumulation" of farm enterprises. At the same time it also makes sense to interpret the higher net surpluses of agriculture—intimated already in 1983 as the consequence of the farm price reform—as the "anticipation of producer prices," designed by the GDR leaders to prepare for future price increases for previous work.(13)

The great and increasing significance of producer prices for GDR farming is also indicated—albeit indirectly—by a comparison with the price structure in the FRG: Following the implementation of the price reform in 1984, the producer price level in the GDR was roughly 150 percent above that prevailing in West Germany (see Table 1), while the industry price level in both German states barely differed.

The level of GDR producer prices for vegetal products is clearly lower than for animal products. On the one hand this reflects the higher status of the processing industry, on the other it surely bears some of the responsibility for the backwardness of vegetal production and the GDR's high specific fodder consumption. A comparison of cereals and pork on the one hand and crushed soy beans and milk on the other shows that the percentage divergence between

fodder and the processed products is far lower in the FRG in both instances than in the GDR. This holds true both for the period before and after the farm price reform. (14)

The GDR is confronted with serious conflicts of interest regarding price formation: The rather steep price increases for milk (+ 99 percent in 1970-1984) must be considered against the background of the profitability problem with respect to this sector of production. If prices for cereals had been raised more than was actually the case (+ 60 percent in 1970-1984), these problems would have been even more severe in view of the more expensive previous services involved for animal husbandry. From the aspect of volume control, on the other hand, the relatively modest raise in cereal prices causes difficulties insofar as undesirably large quantities of grain need to be imported, although SED General Secretary Honecker categorized the replacement of these imports by domestic supplies as equivalent to cuts in oil imports. In view of the existing production reserves, this highly desirable expansion of output could certainly have been stimulated by higher prices.

As Table 3 shows, the structure of earnings from sales changed very little even after the farm price reform. Slaughter cattle and milk continue to dominate, holding a share of just more than 75 percent. Milk and slaughter pigs account for better than 75 percent of all proceeds from sales of farm products in the GDR. The share of milk rose to more than 30 percent in recent years as the result of the above average rise in the price of this product. At 15 percent, vegetal products hold a relatively modest share of sales proceeds.

Analogous to the use of arable land, livestock holdings, food production and agricultural market production, a comparison of farm sales proceeds reveals that the structures in the two German states are very similar. The emphasis in the FRG also is on animal products, in particular milk, slaughter pigs and slaughter beef cattle.

However, by comparison with farming in the FRG, GDR agriculture displays considerable differences in productivity. GDR farming operates with enormous manpower expenditure; in fact it has continued to rise in recent years. So far the collectivized and industrialized enterprises have failed to produce the expected decline in costs and increase in yields. The GDR farming model of an industrial agriculture on the basis of socialized enterprises, formerly vociferously and frequently praised, has turned out to be a rather expensive experiment. In any case, this concept--created in answer to social objectives--has so far been unable to make good its claim to superiority. That has been the primary reason for the review of farm policy by the party and government leadership. However, it is too much to expect that the GDR will give up its agricultural model. Instead it is likely that its completion will be deferred to an even more distant future. (15) We have several indications to that effect.

Farm Political Reflections, Attempts at Correction

As far as the method of production and the type of enterprise is concerned, GDR farm policy appears for some years to have been governed by the watchword:

"To preserve our achievements."(16) According to all official statements and scholarly publications, we should not expect a further concentration and specialization of GDR agricultural enterprises—at least for the foreseeable future. The present LPG's and VEG's [state farms] will continue the basic units of farm production,(17) their independence in law and their own economic responsibilities are to be preserved. Moreover, the two types of socialist ownership of the means of production—state owned and cooperative—are to continue to coexist.(18) That is important in so far as the establishment of the "cooperation councils" (19) made for institutions capable of making certain—albeit so far modest—planning decisions relating to output and investments. As a result there has obviously been some anxiety in the GDR with regard to the autonomy of the cooperating farm enterprises. The establishment of the cooperation councils is designed to regain the capacity for smooth cooperation among enterprises that, in the 1970's, were separated into crop and livestock production enterprises, independent of one another from the aspect of legal, economic and organizational status.(20) The enterprises then set up are still independent. The inner-enterprise division of labor superseded at the time and replaced by inter-enterprise division of labor worked rather inadequately until the establishment of cooperation councils. The creation of "cooperations" has the objective of removing the difficulties of coordination between the two levels of production without making them the nuclei of even larger enterprise units.

The "regional principle" was introduced to in future avoid the adverse effects of inter-enterprise concentration in the organization of the economic process. Production sectors were set up, while the enterprise was preserved as the basic legal and financial unit. Organization and responsibilities in crop production were once again defined in terms of region rather than products, product groups and product lines. This means—and it is an important point—that the orientation usually adheres to the boundaries of the village, and that parcels (contiguous areas of cultivation of one type of crop) tend to be reduced.(21)

Since the SED conducted its reappraisal of farm policy, we have noted that, though production growth is still the goal—in particular in crop production and especially cereals—this is no longer to be achieved at any price.(22) Instead the focus now is on cost savings and economic considerations. As regards the efforts at raising productivity, the—correct—view seems now to have prevailed that larger reserves are to be found in the reduction of input rather than in increases of output.(23) The farm price reform, much trumpeted in terms of propaganda and often lauded by the party leaders as one of the "most profound political and economic measures in the history of our agriculture,"(24) was certainly a significant event in this process of rethinking and reorientation. Others are sure to follow; in fact some have already been announced—such as the revaluation of fixed assets in farming, too. It is obviously in preparation now and will be carried out from 1990 on. Amortizations are thereafter to be revealed "as such to their full extent."(25) Moreover, much thought is given "to guarantee for farming too the correct return of the costs of live labor in the adjustment to national regulations."(26) This may be interpreted in the meaning that the "contribution to social funds" (27) is to be introduced for agriculture also. Moreover, changes seem to be planned with regard to the system of compensation

for the assessment of work performances—in direction of greater dependence on performance. Also planned is a tax system that provides for greater consideration of differential ground rents.

The adverse international economic situation in the 1970's and 1980's on the one hand and the disillusion caused by the failure of productivity growth to materialize in agriculture—subjected at high cost to enforced industrialization—on the other may well have caused the SED to arrive at the limits of its willingness to experiment. Better profitability in farming, too, now seems to be more important than continuing sociopolitical experiments. In this connection it appears fitting that, ever since the 11th SED Congress, the GDR authorities have been stressing the need for "further developing (farming) as an efficient sector of the national economy." (28) This must mean that agriculture will be progressively relieved of its role as a welfare recipient. In view of the dimensions involved, this is going to be very difficult indeed and capable of achievement in the very long term only, even if productivity growth were to be quite substantial.

GDR agriculture is likely therefore in future also to require and obtain considerable subsidies. Producer prices will continue to play a very important role.

Table 1: GDR Producer Price Level (1) by Comparison With the FRG (FRG = 100)

Year	Agricultural Products			For Information:	
	Total	Including:		Year	Consumer Parity (4)
		Vegetal (2)	Animal (3)		
1970	189	120	211	1972	95
1975	149	98	164	1977	100
1980	153	103	167	1981	102
1983	149	90	167	1983	107
1984	241	175	258	1985	107

(1) Sales volume (state yield) of GDR agriculture valued on the one hand at average sales proceeds per product unit in the GDR and, on the other, with average selling prices (excluding value added tax) for sales and exports by FRG agriculture.--(2) Cereals, oil fruit, potatoes and sugar beet.-- (3) Slaughter cattle, milk, eggs and wool.--(4) The purchasing power of the mark in the GDR compared with the purchasing power of the D-mark in the FRG by crossing commodity baskets (the respective GDR and FRG consumption structures) for 4-person employee households.

Sources: GDR Statistical Yearbooks.— FRG Statistical Yearbooks on nutrition, agriculture and forests.—DIW calculations.

Table 2: Development and Level of Producer Prices for Important Farm Products

(4) Erzeugnisse	(1) DDR				(2)		zum Vergleich: Bundesrepublik		(3) DDR in Relation zur Bundes- republik ⁵⁾	
	1970	1983	1984	1985	(5) Veränderung 1983 1984 (6) gegenüber		1970/71	1984/85	1970	1984
	(19) in Mark/t				(20) in vH		(7) in DM/t		(8) BRD = 100	
(9) Weizen	368	393	610	626	+ 6,8	+ 55,2	358	448	103	136
(10) Roggen	411	469	649	666	+ 13,9	+ 38,7	329	445	125	146
(11) Ölrüchte	1 093	1 162	1 542	1 577	+ 6,3	+ 32,7	667	1 008	164	153
(12) Kartoffeln	193	286	487	481	+ 48,2	+ 70,3	164	196	118	248
(13) Zuckerrüben ¹⁾	86	102	142	170	+ 18,6	+ 39,2	77	111	112	128
(14) Schlachtschweine	4 945	5 166	7 669	7 644	+ 4,5	+ 48,5	2 224	2 923	222	262
(15) Schlachtrinder ²⁾	4 402	6 135	9 225	9 271	+ 39,4	+ 50,4	2 386	3 444	184	268
(16) Schlachtgeflügel ³⁾	5 314	5 181	8 137	8 211	- 2,5	+ 57,1	1 731	2 377	307	342
(17) Milch ⁴⁾	853	1 039	1 697	1 698	+ 21,8	+ 63,3	369	633	231	168
(18) Eier	6 580	6 580	7 480	7 552	0	+ 13,7	2 478	2 671	266	280

¹⁾ Bundesrepublik: vor Abzug der EG-Erzeugerabgaben. — ²⁾ Einschließlich Kälber, Schafe und Ziegen. — ³⁾ Einschließlich Kaninchen. — ⁴⁾ DDR: einheitlicher Fettwert von 4 vH; Bundesrepublik: durchschnittlicher Fettwert von 3,8 bzw. 3,9 vH. — ⁵⁾ Für die Bundesrepublik Wirtschaftsjahre 1970/71 bzw. 1984/85.
Quellen: Statistische Jahrbücher der DDR. — Statistische Jahrbücher über Ernährung, Landwirtschaft und Forsten der Bundesrepublik Deutschland. — Berechnungen des DIW.

Key:

- | | |
|-------------------------------|---------------------------|
| 1. GDR | 11. Oil fruit |
| 2. For comparison: FRG | 12. Potatoes |
| 3. GDR in relation to the FRG | 13. Sugar beet |
| 4. Products | 14. Slaughter pigs |
| 5. Change | 15. Slaughter beef cattle |
| 6. Compared with | 16. Slaughter poultry |
| 7. D-mark per ton | 17. Milk |
| 8. FRG = 100 | 18. Eggs |
| 9. Wheat | 19. Mark per ton |
| 10. Rye | 20. As a percentage |

(1) FRG: Before deduction of EC producer levy.— (2) Including calves, sheep and goats.— (3) Including rabbits.— (4) GDR: 4 percent standardized fat value; FRG: 2.8 and 3.9 percent respectively average fat value.— (5) For the FRG farm years 1970/1971 and 1984/1985 respectively.

Sources: GDR Statistical Yearbooks.—FRG Statistical Yearbooks on nutrition, agriculture and forests.—DIW calculations.

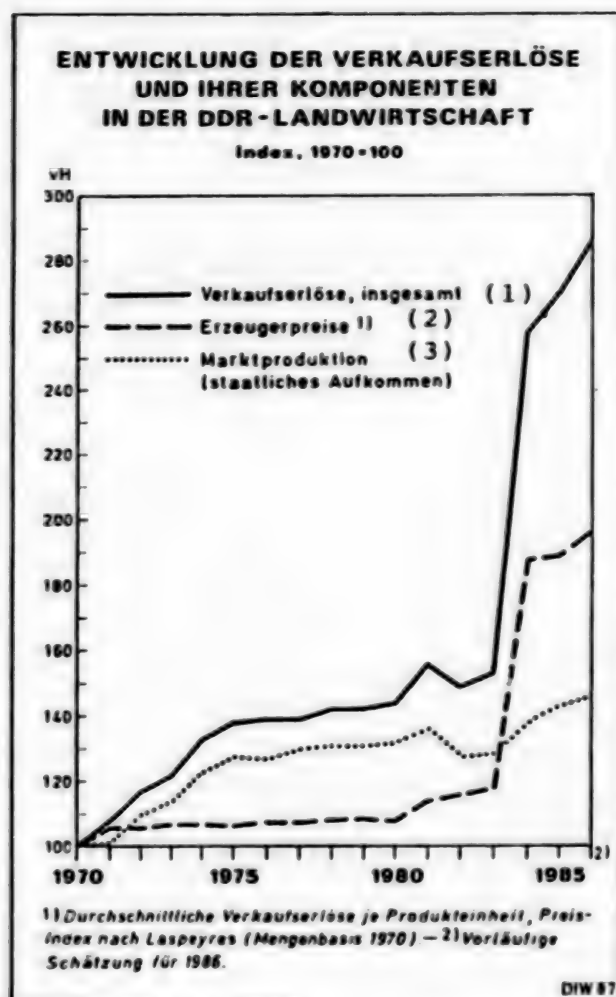
Table 3: Structure of Sales Proceeds in GDR Farming (Percentages)

Products	1971-1975(1)	1976-1980(1)	1981-1983(2)	1984-1985(3)
Cereals	5.4	5.4	4.8	4.3
Oil fruit	1.5	1.4	1.3	1.3
Potatoes	5.5	6.3	6.2	6.3
Sugar beet	2.4	2.4	2.5	2.3
Vegetal products (4)	14.8	15.5	14.7	14.2
Slaughter cattle (5)	49.4	49.4	49.9	47.2
Including:				
Slaughter pigs	30.3	30.1	30.2	28.2
Slaughter beef (6)	15.4	15.7	16.1	15.1
Slaughter poultry (7)	3.7	3.6	3.6	3.9
Milk	28.2	27.5	27.6	32.9
Eggs	6.4	6.2	6.4	4.2
Wool	1.2	1.4	1.4	1.5
Animal products (4)	85.2	84.5	85.3	85.8
Total sales proceeds (4)	100.0	100.0	100.0	100.0
Same (in billion mark)	20.4	23.3	25.2	43.6

(1) 5-year average.— (2) 3-year average.— (3) 2-year average.— (4) Total of headings shown here.— (5) Live weight.— (6) Including calves, sheep and goats.— (7) Including rabbits.

Sources: DIW calculations as per GDR Statistical Yearbook data on state yields and average producer prices obtained per product unit.

Graph: Development of Sales Proceeds and Their Elements in GDR Farming
(Index: 1970 = 100)



Key:

- | | |
|-------------------------|------------------------------------|
| 1. Total sales proceeds | 3. Market production (state yield) |
| 2. Producer prices | |

(1) Average sales proceeds per product unit, price index according to Laspeyres (1970 volume base).— (2) Preliminary estimate for 1986.

FOOTNOTES

1. See "Encouragement of GDR Agriculture by High Producer Prices," editor: Horst Lambrecht, DIW WOCHENBERICHT No 42/1973.
2. The following dimensions count as industrially operating enterprises: For dairy cattle keeping at least 800, for fattened beef from 2,000 up, for fattened pigs from 3,000 up. Crop production is industrialized to the largest extent, animal husbandry only to 20 percent.

3. In contrast to the GDR, not all products enjoy such preferences in the FRG and the EC.
4. See Horst Lambrecht, "GDR Farming Before and After Its Reorganization in 1960," DIW special issue No 117/1977, pp 145ff.
5. See Manfred Melzer, "Price System and Price Policy" (principal article), in "DDR Handbuch" [GDR Handbook], published by Federal Ministry for Inner-German Relations, Bonn 1985, p 1032.
6. See especially the "Third SED CC Plenum of November 1981. (Reporter: Erich Honecker)," NEUES DEUTSCHLAND, 20 November 1981, pp 3f.
7. According to current tax regulations crop production is taxed both by fixed amounts—based on soil quality—and on a progressively scaled profit system. Enterprises on poor land, on the other hand, receive subsidies from the national budget. Animal husbandry enterprises are subject to differential taxation, depending on the level of profitability. See GESETZBLATT DER DDR, Special Issue No 111, 31 January 1983.
8. See "The GDR National Budget 1980-1985," edited by Heinz Vortmann and Ulrich Weissenburger, DIW WOCHENBERICHT No 42/1986, p 533.
9. See "SED CC Report to the Eleventh SED Congress (Reporter: Erich Honecker)," NEUES DEUTSCHLAND, 18 April 1986, p 5.— See also Walter Halbritter, "Experiences and Tasks Related to the Implementation of the Price Reform," KOOPERATION No 3/1985, p 112.
10. See Walter Halbritter, "Strong Impetus to Performance Growth. On the Continued Pursuit of Farm Price Reform from 1986 On," NEUE DEUTSCHE BAUERNZEITUNG No 33, 16 August 1985, p 6.
11. Though this objective has been called for repeatedly and for a long time, statistics show that the actual reduction of cereal imports remained on the modest side all through the 1980's: In the average of 1976/1980 the GDR imported 3.5 million tons cereals, in 1981/1985 3,0 million tons.
12. Beef and veal account for 25 percent of a generally large per capita consumption of meat and meat products (1985: 96.2 kg).
13. See Karl Hohmann, "Farm Price Reform as a Productivity Stimulus?", FS-ANALYSEN No 7/1983, p 61.
14. The cereals and pork price ratio in the GDR was 1 : 20.0 in 1983, 1 : 19.2 in 1984 (FRG: 1 : 19.3 in 1981). The coarse cut soy bean and milk ratio was 1 : 20 in 1983 and 1 : 1.8 in 1984 (FRG: 1 : 0.9 in 1981). See Karl Hohmann, as before, p 55.
15. Oddly enough, the term "industrialized production methods" has lately been little if at all used in official statements and publications. It

does not, for example, occur at all in the 11th SED Congress report and is mentioned once only in the draft resolution to the Thirteenth Farmers' Congress (footnote 26). It is also missing from the 11th SED Congress directive to the current 5-year plan and from the Law on the 1986-1990 5-Year Plan. Werner Felfe, the Politburo member in charge of agriculture, used the term only once in his last major comment on farm policy (see his report to the central seminar with management cadres and managers at the 1986 AGRA [farm show], reprinted in KOOPERATION No 8/1986, pp 337ff). The term industrialized production methods is entirely missing in the latest publications that might be interpreted as commentaries on current farm policies or in reports on scholarly colloquiums (see WIRTSCHAFTSWISSENSCHAFT No 1987, pp 120ff), or mentioned sporadically only (see WIRTSCHAFTSWISSENSCHAFT No 11/1986, pp 1601ff and EINHEIT No 1/1987, pp 82ff).

16. See "GDR Agriculture: Productivity Arrears in Animal Husbandry," edited by Horst Lambrecht, DIW WOCHENBERICHT No 26/1982, p 352.
17. See "Report...", as note 9, p 5.— On the principles of the operation of farm enterprises see in particular the "Model Cooperation Agreement for the Cooperation of LPG's and VEG's," enacted by the Council of Ministers in 1985. See NEUE DEUTSCHE BAUERNZEITUNG No 25/1985, pp 12ff.
18. See Klaus Ahrends, Kurt Groschoff, and others: "Aspects of the Further Social Development of Agriculture Following the 11th SED Party Congress," WIRTSCHAFTSWISSENSCHAFT No 11/1985, p 1615.
19. There were 1,193 in early 1986. As a rule they include one crop production enterprise and two-four livestock production enterprises. Decisions by the cooperation council must be adopted unanimously. The council is composed of enterprise managers and other enterprise employees. Non-enterprise representatives (kreis council, kreis enterprises for farm equipment, agrochemical centers, and so on) may attend in an advisory function. Cooperation councils have specific coordinating duties, so-called economy managing functions. As per the model cooperation agreement, the cooperating enterprises retain their own enterprise plans, their own work units, may conclude their own business contracts and earn their own profits.
20. In early 1986 only 1,300 (specialized) crop production enterprises accounted for all field farming, the vast majority of them LPG's (1,144). Crop production enterprises held an average of 4,700 hectares agricultural area each. They ranged across the borders of 5-7 villages and employed an average of 260. Livestock production counted 3,320 enterprises in early 1986. These enterprises held an average stock of 1,700 cattle units and 120 employees. The cooperative sector dominated here also: There were 2,760 specialized animal husbandry LPG's at the beginning of 1986.
21. Still, we should not overlook the size ratios in comparison with western land owning farmers. The average field size in the GDR is about 50 hectares, in the FRG barely 2 hectares.

22. The objectives of the 1986-1990 5-Year Plan are generally quite modest as regards output growth: In the case of cereals alone, the harvest volume is to rise by approximately 2.5 percent per annum by 1990 (compared with the 1981/1985 average), in the case of grain, potatoes and sugar beet by just about 3 percent per annum. It is planned to raise the market production of slaughter cattle, milk, eggs and wool by 1.5 percent.
23. See Gerald Schmidt. "On the Comprehensive Intensification of Agricultural Production," EINHEIT No 1/1987, pp 82ff.
24. See general secretary Erich Honecker in an address to the kreis party secretaries; see also Wilhelm Cesarz, "Farm Price Reform Encourages Performance Growth," NEUES DEUTSCHLAND, 7 May 1983, p 3.
25. See Klaus Ahrens, Kurt Groschoff and others, as footnote 18, p 1625.
26. See "Draft resolution for the Thirteenth GDR Farmers' Congress," NEUES DEUTSCHLAND, 13/14 December 1986, p 4; see also Klaus Ahrens, Kurt Groschoff and others, as footnote 18, p 1625.
27. In industry generally since 1984, in the construction industry since 1985, 70 percent of total wages and salaries paid have had to be paid to the national budget as "contribution to social funds." The legislative justification offered at that time is virtually identical with the current announcement for agriculture.
28. See Joerg Mueller, Wolfgang Mueller, "Topical Issues of the Farm and Alliance Policy of the 11th SED Party Congress. Report on a Colloquium at the Academy for Social Sciences at the SED CC," WIRTSCHAFTSWISSENSCHAFT No 1/1987, pp 120ff; see also Gerald Schmidt, as before, footnote 23, p 82.

11698

CSO: 2300/239

QUESTION OF IMPROVED MANAGEMENT, PLANNING, MARKETING DISCUSSED

Sofia OTECHESTVO in Bulgarian No 4, 24 Feb 87 pp 15, 16

[Article by Sr Science Associate Genrikh Detkov: "Entrepreneurship, Innovation, Competition"]

[Text] The opinions are most diverse when the issue of management is raised. Some link it to authority deriving from the position held or affiliation with a given institution, and others link it to the personal qualities and capabilities of the managers. Some not without reason assert that management is a precise science which requires the appropriate knowledge while others would immediately rejoin that management is constant creativity and for this reason is very close to art. The numerous opinions and infinite arguments lead one to the idea that each of these views contains a number of serious grounds for interpreting the complex essence of management.

There was a time when in this complexity we sought objective reasons for one or another failure, for incompetent decisions, for unsound plans and predictions, and we tactfully called these "growth errors." It turns out that along with its many advantages, socialism also has one not so good quality, it tolerates a good deal. A lack of management knowledge and ability cannot be replaced by enthusiasm and appeals. This raises the problem of an integrated level of management!

The 13th Party Congress and this year's January Plenum focused attention on questions related to self-management. The objective necessity of a new approach was disclosed and which will turn management from a "narrow specialty" of the leaders into a question and daily activity for everyone. It is clear that this is a path for turning completely to intensive production, constant technological modernization and financial self-support. These new requirements reflect primarily on the leaders. It is no accident that the first step toward self-management was tied to an assessment and selection of leadership by the labor collective itself. Self-management will no longer tolerate a lack of initiative; a fear of assuming risk; irresponsibility concealed behind objective factors; a lack of one's own position replaced by a multitude of supporting opinions. The new conditions will raise new questions as well as new demands on the personnel in management extending from the minister to the worker and hence it is clear that this is a common concern as both a general direction and practical application.

Guided by these considerations, we have resolved with the aid of specialists, scientists, leaders and prominent workers to bring out the problems and possible solutions related to the principles of self-management and the necessity of shaping a new management environment. The opinions which will be voiced in this new rubric will also be debatable and contested and hence this will be open for all our readers who would like to share their thoughts and ideas on the questions raised.

After I had agreed to write an article for the rubric "The New Management Environment," I spoke with my friend, a production director at an electronics enterprise, and asked him to aid me. "Possibly there is something which is not in order in the area of the management environment under the new conditions of self-management?" I said, trying to provoke him. I intended to seek his advice on how a modern economic enterprise should be managed in a spirit of the recommendations of two American consultants on management questions as set forth in the recently much discussed book (T. Peters and R. Waterman, "V poskakh effektivnogo upravleniya. Opyt luchshikh kompanii" [In the Search of Efficient Management. The Experience of the Best Companies], Moscow, Progress, 1986). I thought that at present, when the enterprises are electing their own directors and are beginning to operate under the new conditions as socialist commodity producers without administrative interference from superior levels, they would experience a shock from the very unusual independence and would not know that they must now in a new manner organize planning (already self-planning), marketing (independently sell their products on domestic and foreign markets), supply of raw products and materials (on the basis of their trade and not on a basis of limits set for material-technical supply) and so forth.

My friend shot back in reply a whole sheaf of problems which were besetting the enterprise at this stage. Many of the 40 national enterprises which supplied various materials had refused to conclude contracts. For this reason, they cannot find the wire, cable, contacts and elements needed for normal operation. Outside suppliers of hardware (the USSR, CSSR, Poland and others) also refuse to deliver certain types of semifinished products. Minor parts such as fastening elements (screws, nuts and bolts) which in principle are not limited and are usually an object of free contracting also cannot be found where they should be, in the territorial material-technical supply bases. (Or these are shipped in quantities which are supplied by the producer such as crates, carloads and so forth, that is, in quantities which surpass by many fold the needs of the enterprise.) The chain reaction of the lack of coordination in supply has caused many consequences at the enterprise of my friend: the leadership was forced to shut down one shop, to review the 1987 production program toward reducing the production volume and because of this was forced to let go 30 persons. And to fire 30 persons is in no way an easy task. In the social sense there is no problem as many enterprises in the town need workers, particularly in construction, the production of construction elements, at the machine building enterprise and the agroindustrial complex. But once you begin to dismiss the workers and employees who are least useful for the enterprise, it turns out that they are precisely either mothers with children or persons who are hard to place or even worse, relatives or friends of persons from the Obshtina People's Council, from the Obshtina Komsomol

Committee, from the Obshtina Party Committee, from the Okrug People's Council, from the Okrug Komsomol Committee, from the Okrug Party Committee, from the MVR [Ministry of Internal Affairs] bodies, from the fire service, from the hunting and fishing society, from Secondary Raw Materials and so forth. If one thinks that in this list the secondary raw materials could easily be disregarded, you would make a great mistake. Scarcely had the enterprise lost in a dispute with them when State Arbitration ordered the enterprise to sign a contract with Secondary Raw Materials for turning over 20 tons of scrap aluminum. In bearing in mind that the limit (this time secured by a contract) for aluminum in the plant's annual program is 30 tons, it becomes clear that the contract can be carried out only if a portion of the stock is turned over directly to Secondary Raw Materials.

The "smart businessmen" from the trust's planning section also set limits without considering the production consumption standards. They planned the production of 80,000 articles each of which requires (as it is electrical or electronic) a plug in order to be connected to the power network. At the same time, a limit is set for the supply of plugs at 40,000 units. The narrow-minded financial inspectors, in discovering the overexpenditure of this limit, fine both the enterprise and the leadership. For these and other questions it is essential to refer to the trust, but there they dismiss us and wait for a new reorganization. Some are beginning to confuse self-administration with anarchy.

In hearing these and other complaints (or, if I can use the scientific term, information concerning the objective state of the enterprise), I thought, first, how much there still is to do on the mechanism before we reach effective management. After this I wondered do not the elaboration and introduction of the mechanism require management skills? Is it a skill to publish a regulation governing economic activities which states that the economic enterprises are self-managing economic units and at the same time by limits and constraints to so bind the enterprise that it is actually deprived of the possibility of independently taking decisions? What sort of efficiency is it when some persons hold meetings and instruction sessions where they assure the listeners that they are self-managing economic organizations which produce commodities while other individuals (usually the immediate superiors as well as the leaders of the local bodies of a territorial administration) order precisely what must be done. It is in no way efficient at these meetings to assure the economic leaders that they are to switch to full cost accounting and then on the next day to order them to send so many persons to one or another place so that they can perform another (not for the enterprise) economic activity, while simultaneously receiving wages at the enterprise where they are not working. It is in no way efficient to set a plan for virtually two identical enterprises where one has double the volume than the other, and when the latter, regardless of this, still does not fulfill the plan, it receives profit from the former in order to be able to pay both the wages and bonuses to the leadership of the second enterprise for overfulfilling an already adjusted (downward) plan.

"There they go criticizing us again," is what the readers at this place will think if they are managers and employees of the superior levels of the management hierarchy. But down below, in the enterprises, is everything

really in order and are there no reserves to improve management? There some of the directors are worn out by business trips (foreign business trips are particularly fatiguing), they abandon leadership, they shift responsibility to their subordinates and do not watch work like they should. But how should they? They themselves must be an example of professionalism and discipline, of efficiency and competence, entrepreneurship and resourcefulness. They should roll up their sleeves and get involved in their work. They must stop waiting for instructions and use the rights of the self-managing labor collectives. They must learn to direct the work of their subordinates just as harmoniously as a conductor directs his orchestra. They must not panic before the storms of life like our famous Capts Georgiev and Dzhmbazov who crossed all the known oceans in spite of the storms, typhoons and other dangers. They must turn to face the market, the needs of the purchasers and please them with dependable equipment, tasty food, good clothing and attractive housing. They must overcome the temporary difficulties in supply caused by the transitional period during which one approach must be replaced, that of universal subordination, by another of independence, entrepreneurship and innovation. They must not forget that in a sophisticated family and a sophisticated nature, close combined labor, mutual aid in difficult times and a desire for the universal good continue to remain the law for each member of our society and they must realize that under the new conditions of competition, independence and self-management, the success and flourishing of their labor collective depends upon their actions and not their inaction. The prosperity of the entire people depends upon the amount of profit which they will achieve, and this means the level of public health, education, culture and so forth. They must learn also from their own experience as well as from the science of new management.

As for the new management approach, the use of its tools will be of equal benefit for all levels of management in the enterprise, trust, association, ministry, department and so forth. A creative, revolutionary approach to the tasks is precisely what we need; there must be hard work to resolve the problems at hand; there must be high quality, well reasoned resolutions to all questions; constant concern for one's purchasers; an attentive attitude toward the personnel, toward the specialists, and the workers; there must be the bold taking of risks; a rapid response to changes in objective reality; constant experimentation in the search for better production methods, better equipment, better management, a better product, and a better satisfying of one's customers. Lastly, our consumer -- the public, the enterprise, the state and public organizations -- will feel like a king which for his money receives precisely what he wants.

10272

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ASPECTS OF NEW ECONOMIC MECHANISM EXPLAINED

Sofia NOVO VREME in Bulgarian No 3, 1987 pp 44-61

[Article by Doctor of Economic Sciences, Sr Science Associate, Ivan Angelov: "The New Economic Mechanism Must Be Put to Work"]

[Text] On 23 December 1986, the Plenum of the BCP Central Committee approved the basic provisions of the Regulation Governing Economic Activity and this is to become the normative basis for introducing new methods and a new content for the planning of economic activity, for establishing an integrated system of economic regulators and for instituting socialist self-management. "The application of the regulation," the decision goes on to state, "creates the opportunity to bring about a decisive change in the leadership of the economy and to move toward new forms and methods of economic management."(1)

On 29 December 1986, the Regulation Governing Economic Activity was approved by the Council of Ministers and on 1 January 1987 went into effect along with certain transitional regulations valid until the end of this year.

What Is Most Essential In the Regulation Governing Economic Activity?

In the first place, a start has been made to an extended process of establishing a normative foundation of a party-based system of socialist economic self-management. The enterprise has become the main technological, economic, organizational and socially independent, self-managing economic organization or commodity producer. The labor collective independently resolves all the questions related to managing the socialist property granted to it and is self-managing within the limits set by the law, in bearing full responsibility for the results of its activity.

For the first time in our nation, the most general limits have been set for a normative procedure to eliminate the economically and socially ineffective enterprises which for many years have been a heavy burden on our socialist economy. In all probability this important work will continue during the following years with active scientific studies by economists, sociologists, jurists and so forth on the various aspects of the problems related to the fall of enterprises into economic dependence and liquidation. The results of these studies will probably be reflected in further normative enactments.

Secondly, a substantial step forward has been taken in democratizing the planning of economic activity through the more balanced application of the principles of democratic centralism. The functions of central state planning are being strengthened for the main parameters of scientific-technical, structural and socioeconomic development, that is, in the most important element, and is being freed of thousands of nonessential details. The state plan is not to be allocated specifically to enterprises and economic trusts. The link between the state plan and the plans of the enterprises and trusts is to be carried out through the mechanism of state orders and through a strongly developed system of economic regulators.

A start has been made to the normative elaboration of a dialogue mechanism in the process of planning and this should lead to the placing of the state orders. The system of economic regulators and norms is to become an inseparable part of the state plan. Measures are foreseen which would ensure stability of the norms.

Thirdly, international prices are to be employed as the economic basis of wholesale prices, that is, prices at which our goods and services are sold on present and future international markets. These prices in being turned into a leva equivalent are to be subjected to additional analysis and clarification⁽²⁾ in determining the domestic wholesale price. The prices formed in this manner are to be limit prices, they are to be recorded with the state price bodies and within these limits agreement is reached on the specific wholesale prices between the producers and consumers of the goods and services.

Fourthly, the carrying out of an extensive tax reform is foreseen. The backbone of the future tax system will be a new tax on sales. Rent payments, excise duties as well as a tax on the wage fund are to be introduced.

There are plans to reduce the percentage of centralizing profits into the budget and there will be fuller self-financing of the enterprises by the net income created by them. The same applies to foreign exchange self-financing. This will contribute to a certain relieving of the tax system which is presently overloaded with redistribution functions which are not inherent to it and have been caused by numerous factors. Among these is the imperfection of prices.

Fifthly, an integrated reform in the banking system will be carried out aimed at increasing its effectiveness and establishing conditions for an economic competition between the various banks.

A new structure of the banking system is to be established: the Bulgarian People's Bank as the bank of banks; several commercial banks such as the existing Bulgarian Foreign Trade Bank and the Bank for Economic Initiatives as well as new banks such as the Economic Bank, the Farm and Cooperative Bank and so forth. The State Savings Bank will continue to exist and in essence it will be turned into a Savings-Credit Bank.

The most substantial changes will occur in the credit mechanism leading to a sounder interest policy, to an increase on the interest rate for credits and

deposits and the establishing of an economic link between them, to an improving of credit discipline and so forth. Also to be strongly encouraged is a further drawing together of the resources, expertise and entrepreneurship of the banks as well as the production and trade enterprises, the economic trusts, associations and scientific organizations.

Sixthly, substantial changes are to occur in the forming of the wage fund and in the paying of wages. The resulting residual wage fund will be formed by the enterprises themselves, in being made directly dependent upon the amount of overall income. With an increase in overall income, in accord with the state-approved stable rates (elasticity coefficients), the wage fund will increase proportionately. When overall income remains unchanged or declines in comparison with the previous year, the wage fund also remains unchanged or declines proportionately in accord with the rate. With a reduction in the number of persons employed in a brigade, shop or enterprise, the wage fund formed in this manner is distributed between the available smaller number of personnel who completed the corresponding job. The average wage can increase without limitation, under the condition that there is a more rapid rise in social labor productivity.

A very important provision of the regulation is that the wages of workers, auxiliary personnel, the leader and his deputies and other management personnel are not guaranteed. The amount of the wages depends upon their actual contribution to carrying out the assigned job, upon the final annual results and the presence of money in the wage fund.

Seventh, better organizational and economic conditions are to be created for mobilizing the creative entrepreneurship of the scientific and technical intelligentsia involved in technological modernization, applied research activities and improving the quality of product from the scientific-technical centers, productions centers, research and technology organizations, special program collectives and so forth.

Eighthly, a simplified normative system has been established for more efficient management of the investment process. The relationships between investors, designers, executors, suppliers and banks are to be placed totally on an economic and contractual basis. Budget financing of capital investments into material production is to be eliminated, with internal funds and credits being turned into the sole source of investments. The role of the investor is to be raised. Payment for survey, design and construction-installation services is to be tied to the end result, that is, the completed survey, design or the operating production capacity.

A competitive principle is to be applied in choosing a designer, executor, or supplier of machinery and equipment, the general executor or credit bank. The normative system is to be sharply simplified with the norms for time spent on surveying, designing, construction and introduction as well as on the relative share of architectural and construction work being reduced from several thousand to three figures. The procedure for payments, the system of state technical inspection and the organization of technical and economic expertise are to be improved.

Ninthly, there is to be a gradual shift from centralized limited material-technical supply to its decentralized realization on a commercial basis. The enterprises and economic trusts will be able to independently organize their supply activities for raw products, materials, fuel, machinery and so forth and the sale of their products on the domestic and international market independently and without sectorial, departmental and territorial constraints. They will carry out their commercial activities at their discretion by direct ties with their economic partners or with the aid of intermediaries. Strict economic sanctions are to be applied against abuses of production and the prices of luxury goods and delicacies.

As a temporary transitional measure for a limited number of acutely scarce raw products, materials, machines and so forth, agreement between the producer and consumer is to be reached on the basis of a centrally determined limit. The list of these goods and services will be determined annually by the Council of Ministers. With the establishing of the necessary prerequisites, their number will gradually be reduced, in disappearing after some years.

Tenthly, a start has been made to a normative system for gradually widening the economic competition between the enterprises in receiving state orders; between producer enterprises of goods and services; between participants in the investment activities and in scientific research and technological developments; between the commercial banks; between various forms of commercial activity including a network of firm stores and specialized trade organizations; between state and cooperative production and trade organizations and so forth.

Up to now this is just a humble beginning. To get this started and in subsequent years to reach a law on economic competition between socialist economic organizations, economic science, sociology, law and the other social sciences must work out the theoretical bases and mechanisms of a socialist economic competition. Many lessons certainly will be drawn from the practice of this competition under our conditions. Such practical experience as yet does not exist and we are forced to make one or another assessment on the basis of foreign experience, theoretical considerations and various logical constructs.

The Sequence of Introducing the New Economic Mechanism

In order to work out an integrated system of centralized economic management for the national economy, exceptionally complicated work is required. In drawing up the Regulation Governing Economic Activity, the experience which we gained over the last 20-25 years and the experience of the other socialist countries were employed. And in spite of this, over the comparatively brief time it has been impossible to complete all this enormous work.

In bearing in mind the complexity of the system of economic regulators, the necessity for thorough preparations and exceptional responsibility of the assumed major undertaking, the Central Committee has correctly decided to adopt a stage-by-stage approach in introducing the new economic mechanism. What does this mean?

As of 1 January 1987, the provisions of the Regulation Governing Economic Activity came into effect for the following areas:

The establishing, the rights and duties of enterprises, economic trusts, associations and state bodies and the relationships between them along the horizontal and the vertical;

A new system and new scope of planning in the national economy including the procedure for drawing up the state plan and its content; planning at the enterprises, economic trusts and associations; the dialogue mechanism in the process of compiling the plans and the related placement of state orders;

The economic rates for deductions from the currency earnings of the enterprises and going to the state;

The organization of wages of the leadership personnel, the specialists and the executors;

The gradual shaping of a new banking system, of the functioning of the credit mechanism, including a new system of state crediting, and the halting of budget financing for investment projects in material production;

A procedure for establishing technological centers, research and technology organizations and special program collectives, of payment for activities relating to production modernization, applied research activities and improving the quality of products and services;

A new, simpler mechanism for managing investment activities and relations between the participants in the investment process with certain temporary, transitional provisions valid only for 1987;

New provisions on commercial activities with certain transitional provisions on the setting of limits;

A new system of economic contracts.

As an exception, while the new studies are being completed and checked out, up to the end of 1987, the following will remain in effect: wholesale prices; the types and amounts of taxes and payments to the budget as well as the procedure and rates for deductions for the monetary funds at the enterprises; interest and fees collected by banks; the foreign exchange coefficients; the procedure for forming the wage fund, the rate and staff schedules; the scheme for the formation and distribution of income and the scale for adjusting the increase in the average gross wage; provisions for applying the economic mechanism in the territorial units and in nonmaterial production as well as specific rules of the economic mechanism in agriculture.

As of 1 January 1988, all components of the new economic mechanism will go into operation comprehensively.

The obvious cohabitation of a number of new principles and rules of conduct with old prices, taxes, interest and basic payments is a compromise. With

this situation, the new economic mechanism cannot manifest itself fully. However, such a compromise is inevitable and is dictated by common sense.

The new economic mechanism will probably be judged by different people. Some will feel that it goes very far by granting very many rights to the enterprises and economic trusts and that the opportunities of the central state bodies of directly and efficiently leading economic activity are restricted. Others may feel that it does not go far enough in democratizing economic administration as it maintains a number of limitations not only of an economic sort but also of an administrative one.

The regulation governing economic activity as any human undertaking is not a flawless construction. It is not even a construction which some of us might feel it could be with the present knowledge and experience in managing economic activity and with the present prerequisites in the various spheres of our society.

We might wish for a deepening of the normative elaboration of the economic mechanism for economic activity in order to turn this into truly an economic mechanism of socialist economic self-management. The economic units cannot be turned into self-managing units by an administrative act which comes into force on a certain date. The development of economic units into self-managing organizations will be a protracted and complex process. We must not foster any illusions about this if we do not wish to oversimplify things.

This is just a beginning. In the following years of the current five-year plan and particularly in the 1990s, the economic mechanism must develop in all areas until it truly becomes a mechanism of socialist economic self-management. The economic mechanism which we have at present or will have in the next several years is only a prelude to the economic mechanism of true economic self-management.

The scientific research and professional debates on these problems will certainly intensify in subsequent years in order to prepare a sound theoretical basis for an even more effective economic mechanism in the 10th Five-Year Plan.

The Regulation Governing Economic Activity as a whole, however, is an important step forward in improving the national economic management system. Obviously, a great effort has been made in formulating it to give the state normative structure a more democratic system of national economic management through the wide use of economic regulators and norms, in at the same time bearing in mind the realities of our society.

What Must Be Done in Order to Put the New Economic Mechanism to Work?

Along with the efforts to further more radically improve the economic mechanism and which naturally must be continued, in my mind, particular attention at present must be given to the practical application of the provisions of the Regulation Governing Economic Activity. The necessary conditions must be provided so that the new economic mechanism begins operating more efficiently in comparison with its predecessors.

It is no accident that many of our people are asking why our economic mechanisms over the last 20-25 years did not operate as we had planned, what mistakes had we made, what had we not foreseen or not thought of, and what must we do so that this economic mechanism operates as we planned?

It is extremely difficult to provide a complete and all-encompassing answer to such a question. Even the collective efforts of many people over many years in our country and in the other socialist nations were not sufficient. And for the individual man, whoever he might be, this is beyond his power.

We will not set the task nor do we claim to provide a complete answer to these complex questions. Moreover, in such a comparatively brief statement, a line of argument cannot be sound and all encompassing. I am trusting that I will be shown the necessary understanding and leniency even from this viewpoint. I will be content if my line of reason evokes thought and marks a beginning to a discussion in which many people will participate and many ideas will be voiced, even contradictory ones. Thus, by common efforts we can eventually provide a satisfactory answer to this major question.

On a most general level, even arbitrarily, the prerequisites to get the new economic mechanisms successfully into operation can be put in two groups: the first are economic and economic organizational and the second are political, social, legal, managerial and moral-psychological. Let us briefly take up some of these.

Economic and Organizational-Economic Prerequisites

This question is unencompassable. We will merely take up three groups of such prerequisites, in being aware that in so doing the problem is in no way exhausted.

In the first place, in order to effectively activate the various economic regulators, it is essential to achieve a stable equilibrium between the amount of money in circulation and the bulk of commodities and services in terms of quantity and structure but with a much higher quality.

The Regulation Governing Economic Activity provides a normative framework for many new ideas on the complete application of the principles of economic accountability; for a strong differentiation in wages and incentives depending upon the end results; for the financial and credit mechanism and so forth. This is aimed at achieving a more rational combination of public, collective and personal interests, at sharply increasing the economic interest and responsibility of all levels of economic management as well as putting into action various categories of commodity-monetary relations. To put it figuratively, money must become "hot money," the Bulgarian lev must begin to carry out the functions inherent to it and be much more actively involved in the construction of socialism.

All these ideas are correct and are not new. Let us recall how sharply Lenin criticized the erroneous slogan of Trotsky "For Shock Work and for Equality in

Consumption." Our experience unambiguously affirms that there cannot be shock work with wage-leveling distribution.

We are convinced that the absence of a conformity between the personal, collective and public interests and the numerous attempts to rank them in one or another hierarchy inevitably give rise to mismanagement, a departmental approach, passivity, faulty workmanship, the fiddling of reports and the alienation of people from public ideals and values. From our own experience we are convinced that our lev has lost much of its value. To have money frequently does not mean that one possesses a particular value. Because with this money one cannot always immediately secure the necessary machinery, raw materials, spare parts and so forth, if one is an economic leader, or purchase desired furniture or the corresponding make of color television, vehicle or residence.

A sense of fairness requires that we state that although without enough consistency, during the last 10-15 years we have attempted to strengthen the interest of the labor collectives and the individual workers by prices, taxation, the credit mechanism, wages and so forth. In spite of many weaknesses in the wage area, including the predominant wage leveling, there still has been some differentiation in income obtained by conscientious labor in material production. Regardless of the constant adjustments in the plans of the enterprises and the transfer of production quotas from those which do not fulfill the plans to those which overfulfill them, in the aim of ensuring the fulfillment by all enterprises within the trust, there still is a differentiation in the profitability of the enterprises. But this has not been sufficient to encourage the good collectives or individual workers.

An enterprise can keep cash in its funds, but this is of no real importance for it if it must wait several years for the acceptance and execution of orders for machinery or spare parts; if it must wait years until it finds a construction-installation organization for expanding production capacity or production modernization, for building a residential unit or a vacation facility. After construction starts, it takes another 3-5 and more years.

With such a system the enterprises endeavor to obtain more resources, since they do not know whether they will be able to find them tomorrow. Stocks are accumulated for any eventuality. At least, it can exchange one scarce for another with its neighbors. It is difficult to accuse the economic leaders of this, as the money itself does not have any particular value. Everything depends upon the possibility of obtaining material resources. With good reason in investment activities the expression has risen that "it is important to have the allocation limits and not the money." A great effort has been made to restrict this by administrative methods, including thousands of standards governing working capital, but they have been unsuccessful. In my mind, the same fate will befall the recent efforts in this area, including the reconstituting of the Committee for Material-Technical Supply under the Council of Ministers, albeit under a new name, as well as for the working capital standards.

Does not the same thing exist in personal consumption? Even though they have money, the citizens cannot always buy what they wish or when they wish. This

is largely the case with household furniture, electric home appliances, not to mention personal motor vehicles, trips abroad and for housing.

As a result of all of this, our lev loses a significant portion of its strength and this leads to the undermining of the entire system of economic incentive and responsibility.

The lev which is not an universal equivalent undermines the incentive of people to work better and to produce more and better quality goods and services. It is no wonder that it is impossible to count on hard work and high quality when payment is made in a lev with which it is impossible to buy what one wants and when it is needed.(3)

Consequently, there is only one way out of the situation described and that is to establish an effective system of economic incentive and responsibility and along with the other problems which we must solve we must without fail restore the equilibrium between the commodities and money of our market.

Secondly, immediate practical measures are required to demonopolize economic activity and to establish real conditions for economic competition. The Regulation Governing Economic Activity for the first time in our country has made a start to a very important thing, that is, providing a normative framework for economic competition between the socialist economic and scientific organizations. This is a step ahead but it is in no way sufficient.

In order to have economic competition between the enterprises which offer the best conditions for receiving state orders, as is set out in Chapter IV of the Regulation, the appropriate organizational economic conditions are required as well as the right to take decisions and real opportunities to compete among them, particularly if the competing enterprises participate within the same economic trust or association.

In order to have an economic competition between the producer enterprises of consumer goods and services or the means of production, as is stated at various points in the regulation, it is essential to have at least several producers of such goods and services which proceed from their own economic interests and operate at their own expense and their own responsibility within the same or different economic trusts and associations.

In order to have economic competition with at least one or two of our producers, the state must employ a flexible mechanism for importing the appropriate commodities in order to apply economic pressure on our monopoly producers.

In order to have an economic competition between economic organizations in the sphere of trade, as is required in Chapter XI of the Regulation, there must be several possibilities for trade such a direct contacts or through specialized organizations; there must be a trade network of firm stores and several trade organizations (or chains); state and cooperative trade organizations and so forth.

In order to have an economic competition in investment activities, in scientific research and in the activities of production modernization, as was pointed out several times in Chapters IX and X of the Regulation Governing Economic Activity, real conditions must be established for choosing between different designers, executors, suppliers, banks and scientific organizations. This may well require substantial changes in the present organizational structures in designing and in construction-installation work along with a reorganization of the banking system. Appropriate changes are also required in scientific research activities.

Until we have created the elementary economic-organizational, legal and other conditions by which we can eliminate or at least restrict monopoly, it is impossible to count on a true economic competition among the socialist economic organizations. Everything which is said or written on this question, including the normative texts of the Regulation Governing Economic Activity will only be good intentions. And nothing more! Without real economic competition the new economic mechanism cannot operate fully and show its potential. A competitive framework creates the best conditions for the operation of the economic regulators, that is, prices, wages, taxes, interest, foreign exchange coefficients and so forth.

Thirdly, there must be a situation of qualified economic and social insecurity.

The Regulation Governing Economic Activity places strong emphasis on the idea of increasing economic incentives and economic responsibility. One must not expect otherwise, as economic incentive and responsibility are the heart of all economic regulators and they, in turn, are the main content of the economic climate.

One of the most important prerequisites along with the other conditions for realizing the idea of economic incentive and responsibility is the establishing of a situation where there is somewhat less economic and social guarantees. Both the current as well as the strategic interests of our socialist society require the establishing of such a situation. The Regulation Governing Economic Activity makes the first steps toward a normative regulation of the idea of reducing complete economic and social guarantees. At present, we are confronted with the most difficult aspect, that of putting these ideas into effect.

One of the great merits of our socialist society is that it guarantees complete economic and social security both for the individual citizen as well as for the labor collectives. But in social practice everything is much more complicated. Any phenomenon is a unity of contradictions. This also is valid for complete economic and social security. In addition to positive aspects these also have substantial negative features which become particularly apparent when economic and social security are turned into an absolute. Unfortunately, this is precisely the case in our country.

To put it briefly, this is expressed in a strong desire to obtain more from society than one gives in return. Excessive security for the tomorrow dulls the desire to work hard as well as a person's desire to prove each day by his

work that he merits the held position, that he is improving his skills, is working for high productivity, better quality, for innovation, entrepreneurship, and for assuming risk in economic activity with the ensuing responsibility.

Excessive social security, in being expressed in the artificially created labor shortage, has a pernicious effect on labor discipline. In actuality, viewed strictly, we do not have a manpower shortage. If each person worked as he should and if each enterprise or institution hired only as many people as were needed, within a period of several years we would cease talking about the manpower shortage. And we would gain a very efficient tool for improving labor discipline. This is particularly important as the efficiency of the physical and intellectual potential of our manpower has declined to a frighteningly low level. This causes enormous economic and moral injury to our socialist society.

This situation must be changed if we want the new economic mechanism to work.

For a long time there has been a need of creating a situation of graduated economic insecurity. This means that the state will not infinitely guarantee the functioning of enterprises (or parts of enterprises) if they systematically produce poor quality products, violate their contractual obligations, if their production is of very high cost, if they cannot pay their taxes to the state, if they are unable to repay their credit to the bank with interest or are unable even to guarantee the wages of their personnel.

The humble beginning set out in the Regulation Governing Economic Activity must be continued by the elaboration of an integrated system for how we should approach such economically and socially sick enterprises. Such enterprises headed by their leadership are an economic and social burden on our society, ailing parts of a living socialist organism and they must really feel this through lower income, the absence of guarantees for tomorrow, including liquidation with the corresponding transfer of the released labor force.

Equally acute are the problems linked to the absence of social insecurity. Both in theory and in practice it is well known that a socialist society is humane and munificent in its inherent nature. But this does not mean that it must be a benevolent society. It will continued to be munificent only for those who work conscientiously and contribute to the flourishing of socialist Bulgaria. But munificence and humanity must not be turned into an armored social umbrella which patronizes laziness, mediocrity, indifference, irresponsibility, social disinvolvement, passivity, mismanagement or even criminal negligence.

Many of our people still cannot accept the idea of social insecurity under socialism. Others feel the need for such a situation and are convinced that this must be created. But how should we do this? The realization of this idea is in no way easy or simple. But it is not impossible. Soviet literature is already writing on these questions.(4) Certain socialist countries have even begun to take action.

In my mind, the establishing of a situation of certain social insecurity can be achieved by measures in several areas:(5)

a) We must establish a certain minimum volume of social guarantees for all conscientious citizens. This range of guarantees, however, must be smaller than at present, in creating efficient economic, social, moral and other incentives and coercion for more intensive, more productive and higher quality labor.

b) It is essential to intensify the differentiation in wages and labor incentives both in the positive and negative direction depending upon the contribution of the individual worker. This means we must eliminate any upper limits to individual gross wages, in regulating high incomes by a tax on personal income. Obviously we must strengthen the progressive nature of the tax rate, in bearing in mind social equality but in no instance must we blunt the incentives for greater labor results.

c) Certain other measures must also be thought of. I have in mind a gradual limiting of the range of unpaid services for the public; broadening the range of paid services and a reasonable rise in their prices. In all these instances, people with low wages and pensions must be fully compensated. I also have in mind a more sensitive but sound differentiation of the prices for goods and services depending upon their quality. The differences between the prices for the first, second and third quality must be made larger than at present in the aim of not only encouraging the producer but also encouraging the consumer to work harder in order to obtain a higher income which will gain him access to higher quality goods and services. Certainly, the mechanism of economic competition is essential here in order to prevent monopoly speculation in pseudoluxury goods and their corresponding luxury prices.

Political, Social, Legal, Managerial and Moral-Psychological Prerequisites

The effect of the superstructure and particularly the political superstructure on the economic base, under our conditions, is much stronger than under capitalism. The reasons for this are well known. This has also been shown by theory and confirmed by our social practice.

The economic mechanism, as an expression of economic democracy, can operate only with the presence of an ubiquitous process of democracy in all spheres of our society. The experience of the recent past has shown that the economic mechanism is not a magic wand and it is beyond its capability to resolve all the economic and social problems which have accumulated in our nation.

One of the main lessons of the last 20 years is that new methods in economic management cannot be successfully applied if the methods are not changed in the other spheres of our society. Until the appropriate changes occur in these spheres, the economic mechanism continues to run in place. It is turned into a useless erudite creation which is either not applied or is applied partially and formally and because of this does not arouse new, more active behavior among the participants among economic activities.

Consequently, other mechanisms are required which will operate together with the economic mechanism like a well directed orchestra. In my opinion, this is precisely how we must understand the ideas of the 1986 January Plenum and the 13th Congress for creating an economic, political and ideological climate. Without the appropriate uniform direction and harmony in the orchestra, from the different parts we will scarcely obtain any results from the new economic mechanism which we all are awaiting with such impatience.

In order to achieve such harmonious combination between the economic, political and ideological (and here I would add the social and moral-psychological) climate, in addition to the Regulation Governing Economic Activity, there must also be other exceptionally important prerequisites of a political, ideological, social, moral-psychological and other nature. To put it most generally, we must have appropriate changes in all the subsystems of the superstructure as well as in their interaction with the economic base.

What are these prerequisites?

Without claiming exhaustiveness of a strictly logical ranking of them by importance, I would pick out certain of them:

In the first place, the Regulation Governing Economic Activity must secure the trust of millions of people.

As is known, the fate of each party or state document is determined by millions of people. It is very important, certainly, that this document be well worked out and even more important that it be accepted by the people, gain their confidence and be incorporated in their conduct. This will guarantee its realization.

The Regulation Governing Economic Activity provides a normative framework for certain democratic ideas of fundamental importance. If it is applied, conditions can be created for substantial improvements in the functioning of our economy. However, it must be truly applied in an uncompromising and complete manner. The party and state decisions taken after careful analysis and consultation with our best specialists and after a professional polling of wide circles of the community, must be applied with an iron hand and it must not be permitted for individuals or selfishly interested groups in our society to spoil these.

We do have people who are not interested in expanding socialist democracy in the economy. For this reason it is no accident that various forms of pressure, of circumvention or the warped application of the Regulation Governing Economic Activity began immediately after its approval.

If the Regulation Governing Economic Activity is not completely applied, it is quite possible for our people to say of this economic mechanism that it is another hullabaloo. And not without reason! The strictest logical constructs of scientists and specialists remain a useless scrap of paper if they do not gain the respect and confidence of millions of people. The destiny of the Regulation Governing Economic Activity depends precisely upon the trust of millions of Bulgarians.

Secondly, warped labor habits must be overcome.

It is naive to expect that from one day to the next there will be a change in the warped labor habits which have come into being over many years among millions of people who leave for work in the morning and at best work at 50 percent of their physical and intellectual capabilities, who have lost the habit or never became accustomed to modern labor, production and other discipline.

It must be clear to everyone that it is impossible to apply the new economic mechanism with old labor habits. It is impossible to demand a diverse and high-quality product without first producing it. But warped labor skills do not produce such a product. With mediocre labor, only a product of mediocre quality and quality is produced. The same applies to the technical level of the goods and services destined for production purposes.

Undoubtedly the new economic mechanism will be an important tool for establishing new labor habits and new labor discipline inherent to a civilized nation. This will be achieved not mainly by appeals, initiatives and exhortation but predominantly by the means of strong economic incentive and merciless economic responsibility. But the economic mechanism itself would find it hard to carry out such a complex task if it were not reinforced also by other mechanisms which our society possesses. Until we learn to truly work we must not expect miracles from the economic mechanism.

Thirdly, it is essential to achieve a greater socialist justice and respect for the laws of our state.

We all know what harm our society has suffered and continues to suffer from corruption and other forms of abusive power and official position, intercession and respect for our own laws. These are exceptionally effective, unwritten illegal methods which operate behind the scenes and are brought about by the social status of certain persons, by possessed power, by friendship or relationship ties which flagrantly violate the principles of socialist justice and equality before the laws. Among people they give rise to alienation from the purist ideals of socialism and indifference to social affairs.

The economic mechanism places all citizens and labor collectives in an equal position before the laws of our socialist state. It gives them the right to participate in the distribution of the created goods according to their labor contribution, without recognizing any other personal or collective privileges whatsoever.

Need it be proven that the violating of these contradictions runs contrary not only to the sacred principles of socialist justice bequeathed us by the founders of scientific communism but also to the entire system of economic incentive and the economic mechanism generally. Privileges and economic incentive are mutually exclusive.

Fourthly, immediate measures are essential to checking bureaucracy.

The total of the competent powers of various levels of management (from the highest to the lowest) has always been the same and equal to 100. An increase in the rights of the enterprises and economic trusts means a curtailment of certain rights of the state economic bodies. Everyone accepts this as the most general principle. However, when application commences the paradoxes start.

Due to the universal laws of the functioning of any bureaucratic machine, it endeavors to prove its right to existence, to spontaneous growth and to irreplaceability. Thus, it seeks arguments to "prove" the necessity of various managerial elements. The central state bodies show how essential it is for all the other state bodies to coordinate their decisions with them (because this means power); they hold onto the money (this also means power); they collect "arguments" to show how essential it is for them to have additional personnel (in order to exercise the already won power and fight for more) and so forth, and so forth.

The misfortune is that our bureaucratic machine has grown to such a scale that (in the words of Lenin) it can become a dangerous internal enemy of socialism.

Such a judgment is not the product of exaggeration or emotion. Cool-headed analysis of numerous instances in our present-day society confirms precisely what for Lenin required only several years after the revolution to reach such a bitter but precise diagnosis. And like all great men, he did not hesitate to look the truth in the eye and call the phenomena by their precise names.

In my mind there is one solution and that is to carry out an immediate and merciless surgical operation to excise this malignant tumor from the body of our socialist society. In practice this means:

a) To take and apply a categorical decision to reduce the number of managerial elements.

There is a simple truth that the more management elements there are over an enterprise the fewer the powers remaining to it. Even now it is not difficult to foresee that as long as there are many superstructures above the enterprise (and this in the Regulation Governing Economic Activity has been declared to be the main economic commodity-producing unit), the enterprise cannot manage itself. The enormous administrative apparatus of these administrative superstructures will "be concerned" that the rights granted the enterprise do not reach it. There can be no doubt of this. And there is no self-management without the right to take important decisions and to be responsible for their fulfillment. This risks remaining only a good intention set out in the party documents with the best reasons. With such an administrative climate the new economic mechanism cannot operate.

b) We must substantially reduce the apparatus of all the central state bodies, the local state bodies as well as the administrative personnel at the enterprises and economic trusts. And this must be done in practice and not only in words as has been the case up to now.

This will truly be a painful operation. It would be better if it did not have to be performed at all. But since the bureaucratic managerial machine has grown to such size, there is no other way out. Personal interests and prestige considerations must give way to higher vital interests of our socialist society, as it is a question not of any petty details but rather the fate of this society.

There must be a concrete evaluation of what these cutbacks will be. However, it is clear that they will be radical ones. This will be an exceptionally difficult and delicate surgical operation, but it must be performed and with a firm hand. There is no other way out as either socialism will restrain the bureaucracy or the bureaucracy, after gaining strength in the following decades, will finally compromise and stifle socialism.

Fifthly, there must be radical changes in the style, methods and content of the work done by the economic leaders.

We cannot expect that thousands of economic leaders -- starting from the minister and running down to the director of the smallest enterprise -- who for many years have become accustomed to lead chiefly by administrative orders and by methods of strength, all of a sudden will reform and on 1 January 1987 will tolerate a dialogue of equals, a competitive elective principle, action by using economic methods, collective methods of decision taking and combined with one-man leadership in their execution, as now being the main content of their work. Undoubtedly, this will be an extended and complex process full of contradictions.

A majority of the economic leaders is made up of honest people, good specialists dedicated to their work and true patriots. These people have suffered enough and have been forced over the years to work tied hand and foot in the literal sense of the word. They will strongly support the new economic mechanism and socialist economic self-management.

However, among the economic leaders there is a second group of people who accidentally landed in leadership positions. They privately recognize their own incompetence and realize that under the conditions of true socialist economic self-management the ground is crumbling under their feet. This mechanism will put an end to their leadership careers. Undoubtedly, these people will be active opponents of the new economic mechanism. There is nothing miraculous in this. This will be a natural response for self-preservation on their behalf. But the new economic mechanism does not need such people. The new economic policy and the new leadership methods can be successfully carried out only with new people.

The new economic mechanism requires leaders who are profoundly convinced of the correctness of the party line concerning socialist economic self-management, people with a new way of thinking, leaders who sincerely (and not only apparently) believe in the party's new approaches and work unstintingly for their successful application.

Everything in this regard requires the taking of sharp measures to increase the responsibility of the economic leaders and all state officials. Many

instances are known (and the unknown ones are probably even greater) where economic leaders of different rank have deceived the superior bodies out of incompetence or unconscientiousness. This causes our state enormous economic losses and even deeper and completely incalculable moral wounds. It is not difficult to establish the agents (and the protectors) of such irresponsibility. And once established, they must be punished according to their guilt or crime regardless of the positions held or previous achievements. When a person by his conduct consciously damages socialism at present, he himself cancels his previous accomplishments. Persons must be judged not by previous accomplishments, by titles, ranks or qualifications but according to his actual contribution to the flourishing of present-day socialist Bulgaria.

Of particularly great importance is the publicizing of the imposed punishments on such people. We no longer sufficiently bring out the mismanagement or irresponsibility sometimes costing millions of leva. Since there is blame there must also be guilty parties. And the guilty parties must be punished. This is demanded by the principles of any civilized society in which laws exist. And all the more by the principles of the most civilized, a true socialist society. As long as unpunished and covered up irresponsibility exists, the new economic mechanism cannot operate.

Sixthly, there must be stability in the organizational and managerial structures and in the normative framework for economic activity.

The Regulation Governing Economic Activity states that the advisability of the forming of an enterprise or economic trust must be verified by technical and economic feasibility studies. This is all the more important in establishing the higher level managerial structures, or the new laws and other enforceable enactments. Each management mechanism or organizational structure established as a result of sound thinking requires time in order to show its advantages and shortcomings. If the necessary minimum of stability is not created in the organizational-managerial structures, in the economic standards and in the rules governing economic activity, the new economic mechanism cannot operate fully.

Seventhly, there must be substantial changes in the style, methods and content of the work carried out by the party bodies and organizations as well as the other social organizations.

The core of these changes, in my opinion, must be the abandoning of administrative methods of direct operational interference into the work of the economic bodies and the replacement of these by political methods of party leadership. This will increase the independence of the economic bodies and their responsibility. This will create a situation whereby the party bodies will actually have grounds to demand political responsibility of the economic leaders for committed political errors or for flagrant economic mistakes with political consequences.

For now, this is virtually impossible as long as any of the more important economic decisions are taken by the appropriate party bodies and the economic bodies are merely the technical executors. The weak economic leaders prefer

precisely such a style of party work which allows them to wait for everything for instructions from the party committees, to justify themselves using party decisions and take cover behind these decisions and avoid any responsibility.

Radical changes are essential also in the work of the trade unions, the Dimitrov Komsomol, the Fatherland Front and all remaining professional, scientific, creative and other organizations having any involvement in economic activity. And let us not forget that we must significantly reduce their paid personnel, even more so than the curtailments in the economic bodies. These organizations must truly be turned into social organizations.

Without such changes it is hard to imagine the enterprises and economic trusts as self-managing organizations. Without such changes the new economic mechanism cannot operate at full power.

Eighthly, we must make haste slowly and reasonably without turning back.

The reorganization from administrative to economic methods in economic leadership will be difficult, complicated, protracted, contradictory and painful. There may even be certain clashes during the relocating of strata until everyone finds his true place. We must act carefully and make a minimum of errors.

This means that the move to socialist economic self-management must be gradual, by stages, after having first set the clear goal to which we are working as well as the dates by which we intend to achieve this. If this requirements is not observed, excessive disturbances can be caused in the national economy.

This poses special demands for the time of the reorganization. Along with greater decisiveness we must also show a maximum of patience and establish the necessary stability for the organizational structures, the economic standards and the other rules for relationships between the economic organizations during this complex period of reorganization. It is essential, to put it figuratively, to "grit our teeth," to endure those temporary disturbances and not be stopped upon encountering the first difficulties. Because the more we defer this reorganization the more difficult it will be to carry out and the higher the economic, political, ideological and social "price" our society will continue to pay.

It is high time for everyone to realize that it is impossible to put a modern economy into order by rough administrative management methods in claiming that a path of intensive development has been followed. Even less can one think that a turn toward qualitative new growth can be made by such means. Such a turn is possible only by economic means combined with socialist self-management.

* * *

We are truly on the threshold of a momentous time in the development of a socialist society in our motherland. The most characteristic of this momentous time is the unleashing of true socialist democracy both in economic

activities and in all other subsystems of our society. Democracy in economic life is impossible without democracy in all other spheres.

If we want the new economic mechanism to operate effectively, preparatory work of gigantic scope and complexity must be carried out. We have the forces which can carry out this preparatory work and achieve such an historic change. And what is particularly important, we have a communist party which alone can lead these forces. There is no time to waste! More deeds and fewer words are needed for such a true change to come about!

The new economic mechanism must operate at full power! This depends upon us.

FOOTNOTES

1. "Pyatiletka na kachestveno nov rastezh" [A Five-Year Plan of Qualitative New Growth], Sofia, Partizdat, 1986, pp 3-4.
2. "Pravilnik za stopanskata deynost" [Regulation Governing Economic Activity], Sofia, January 1987, p 26. All further quotations from the Regulation Governing Economic Activity are taken from this edition.
3. For these questions see the arguments of A. Strelyanny, "Income and Expenditure," ZNAMYA, No 6, 1986, pp 189-194.
4. See, for example, the interesting articles of: T. Zaslavskaya, "The Human Factor in Economic Development and Social Justice," KOMMUNIST, No 13, 1986; S. Shatalin, "Social Development and Economic Growth," KOMMUNIST, No 14, 1986.
5. A great deal could be written on this subject. I merely sketch out a few ideas for which, if need be, I would be ready to submit further arguments.

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FRG JOURNAL CRITIQUES NEW 5-YEAR PLAN

Cologne DEUTSCHLAND ARCHIV in German Vol 20 No 1, Jan 87 (signed to press 29 Dec 86) pp 49-55

[Article by Maria Haendcke-Hoppe, diplomat in Economics, research consultant at the Office for the Study of Pan-German Economic and Social Questions in West Berlin: "GDR Foreign Trade at the Start of the 1986-1990 5-Year Plan"]

[Text] For the third time within 10 years the GDR economy saw itself confronted, in the first year of a new plan period, with external influences which adversely affect fulfillment of the foreign trade plan—that is, in other words, which have created difficulties at the start. The extremely simple, short formulation for this is: "the price of petroleum." Expressed in a more sophisticated manner: the worsening of the terms of trade due to price developments for raw materials, especially petroleum.

--The beginning of the 1976-1980 plan period had been influenced as of 1975 by the first raw material and oil price shock of 1973-74 on the world market and its effects on CEMA's price setting mechanism. The consequences were at first a worsening of the terms of trade for commerce with the developing countries and the Western industrial nations, as well as a continuous worsening of the terms of trade for commerce with the USSR from 1975 on.

--A draft concept for stabilization had been formulated for the following 1981-1985 5-Year Plan period for the purpose of getting the problems which had arisen as a result of the first oil price shock and were becoming more acute following the second oil price explosion in 1979--namely the growing indebtedness to East and West--successively under control. As is well known, this draft concept was abruptly destroyed in 1981, the initial year of the plan. In the course of the banks' international crisis of confidence, touched off by Poland's and Romania's inability to pay, all the sources of new credit and follow-up credit dried up for the GDR as well. The reduction of contractually guaranteed Soviet oil deliveries of 19 million tons annually to 17 million tons as of 1982 was a second serious event. It is, moreover, unimportant for the end-result as to whether the reduction had been undertaken at the wish of the USSR or at the wish of the GDR. It had not, in any case, been planned during the formulation of the 1981 National Economic Plan and that of the 5-Year Plan. The reduction was also accompanied by an extreme price increase of 48 percent for Soviet oil for 1982, which could only be explained by a changed method of

setting the price. The same price increases were also noted for natural gas. (Footnote 1) (These price increases were mathematically no longer in accordance with the CEMA price setting mechanism using world market price for the previous 5 years as a basis, but did equate to the 3-year average, employed already in 1975. See in this regard Maria Haendcke-Hoppe, "DDR Foreign Trade Affected by Shrinking Western Imports," in DEUTSCHLAND ARCHIV, Vol 10/1983 ff.; Jochen Bethkenhagen, "Petroleum and Natural Gas in CEMA Intra-Bloc Trade," in DIW-WOCHENBERICHT 51-52/1983, p 630 ff.; Josef M. van Brabant, "World Prices and Price-Formation in Intra-CEMA Trade: Selected Empirical Evidence," in OSTEUROPA-WIRTSCHAFT, Vol 3/1985, p 163 ff.)

--It is outright paradoxical that, at the beginning of the current 1986-1990 5-Year Plan, the planning structure, in contrast to the two previous plan periods, could be thrown into confusion by--of all things--the rapid price decline for petroleum on the world markets. For the GDR has advanced to become one of the most important exporters among the non-producer nations in the petroleum sector.

Rigorous Consolidation Policy

Triggered by the above-mentioned, most serious GDR foreign trade crisis around the 1981-82 New Year season was undoubtedly the drying up of Western credits and the unplanned changes in price and volumes of petroleum; the cause, however, lay in the economic weakness of the past which had led to the disruption of the balance of trade and services.

The GDR's economic leadership reacted at that time, as is well known, with finance and trade policy crisis management. This crisis management concentrated on exports to the West at all costs and a sharp throttling back of hard currency imports. That did not affect intra-German trade (IGT). The special conditions of IGT, which is conducted not with convertible foreign exchange but in units of credit, probably even prevented a collapse of the domestic economy. (Footnote 2) (For a detailed analysis of the crisis management, see Karl Heinz Gross, "Intra-German Economic Relations" in The GDR's Economy at the End of the 5-Year Plan Period, Part II, FS-ANALYSEN, Vol 15/1985; same author, "Intra-German Trade From the International Perspective" in DEUTSCHLAND ARCHIV, Vol 10/1986, p 1084 ff.)

The unlimited commercial Eurocredit in the amount of DM1 billion, backed by the Government of the Federal Republic, brought decisive financial relief in the summer of 1983. With its help and that of the second credit in 1984, again backed by the Government of the Federal Republic, the GDR succeeded in not only stabilizing its balance of payments but also in opening up the international credit markets.

At the conclusion of 1985 the foreign trade situation turned out to be visibly defused although by no means permanently consolidated.

1. There was an accumulated credit balance of nearly 26 billion valuta marks at the end of 1985 as opposed to an accumulated debit balance from the 1976-1980 5-Year Plan period in the amount of approximately 29 billion valuta marks. (Footnote 3) (A debit balance of about 40 billion valuta marks altogether had accumulated since 1975, fully 29 billion valuta marks of which alone resulted from Western trade, including intra-German trade)

Table 1. Regional Structure of GDR Foreign Trade

Tabelle 1 Regionalstruktur des DDR-Außenhandels im Durchschnitt der Jahre 1976-1980 und 1981-1985 Anteile in v.H. (effektive Preise)							
(1) Regionen (2)	(3) Umsatz			Export (6)		Import (7)	
	(4) Ist		(5) Plan				
	1976/80	1981/85	1986/90	1976/80	1981/85	1976/80	1981/85
(8) — Sozialistische Länder	69	66	67	72	65	66	67
(9) — darunter:							
(10) — UdSSR	35	38	40	69	62	63	64
(11) — übrige RGW	31	25	23				
(12) — Westliche Industrieländer*	26	29	33	22	29	29	29
(12) — Entwicklungsländer	5	5		6	6	5	4

Key: Table 1.

- | | |
|--|---|
| 1. GDR foreign trade regional structure averaged for the years 1976-1980 and 1981-1985. Share in percent (actual prices) | 6. Exports |
| 2. Regions | 7. Imports |
| 3. Volume | 8. "Socialist" countries |
| 4. Attained | 9. USSR |
| 5. Planned | 10. Rest of CEMA |
| | 11. Western industrial countries (includes IGT) |
| | 12. Developing countries |

Sources: GDR Statistical Yearbooks, Statistical Yearbooks of the CEMA-Countries 1976-1985 (Russian). The delineation between "socialist" countries and CEMA countries, which was changed as of 1981, was reconciled with the GDR statistics.

Table 2. Oil Imports from the USSR

(1) Tabelle 2 Erdöleinfuhren aus der UdSSR und Entwicklung der Handelsbilanzsalden						
Jahr	Menge ¹ in Mio. t	Wert in Mrd. tr. Rubl. ²	DDR- Preis tr. Rubl. je t	Welt- markt- preis tr. Rubl. ³ je t	Anteil an den Gesamt- erdölein- fuhren der DDR in %	Handels- bilanz- saldo in Mrd. tr. Rubl.
(2)	(3)	(4)	(5)	(6)	(7)	(8)
(9) 1976 bis 1980	88,3	4,59	Ø 60	Ø 83	89	Σ -2,14
1981	19,0	1,74	92	173	84	-0,38
1982	17,7	2,41	136	182	82	-0,64
1983	17,0	2,75	162	162	75	-0,20
1984	17,1	3,12	183	175	73	-0,11
1985	17,1	3,11	182	171	73	-0,10
(10) 1981 bis 1985	87,9	13,14	Ø 151	Ø 174	77	Σ -1,43
1986	17,1	ca. 2,94	ca. 172 ⁴	85	-	-0,34
(a)	1 Statistische Jahrbücher der DDR.					
(b)	2 Statistische Außenhandelsjahrbücher der UdSSR (russisch) 1976-1985.					
(c)	3 Arabisch-leicht (Jahresdurchschnittspreis), umge- rechnet zum amtlichen Rubel-Dollarkurs der sowjeti- schen Staatsbank (Jahresdurchschnittskurs), für 1986: Januar bis Juni.					
(d)	4 Berechnet auf der Basis des Fünfjahresdurchschnitts der Weltmarktpreise. In den Jahren 1980-1985 ergab sich für die DDR rechnerisch ein Preis, der mit dem Durchschnitt der vorangegangenen drei Jahre korre- spondierte. Anteile errechnet.					

Key: Table 2.

1. Oil imports from the USSR and the development of trade accounts
 2. Year
 3. Volume in millions of tons
 4. Value in billions of transfer rubles
 5. GDR price in transfer rubles per ton
 6. World market price in transfer rubles per ton
 7. Share of the total petroleum imports of the GDR (percent)
 8. Balance of trade account in billions of transfer rubles
 9. 1976 to 1980
 10. 1981 to 1985
- a. GDR Statistical Yearbooks
 - b. USSR Foreign Trade Statistical Yearbooks (Russian) 1976-1985
 - c. Arab light (average price for the year), calculated at the official ruble-dollar rate of the Soviet State Bank (average rate for the year), for 1986, January to June
 - d. Calculated on the basis of a 5-year average of prices on the world market. For the years 1980-1985 a GDR price is mathematically arrived at which corresponds to an average for the previous 3 years. Shares calculated

2. Net hard currency indebtedness, statistically calculated at \$5.5 billion, was reduced by half by the end of 1985. This was, to be sure, not accomplished by a reduction of gross indebtedness, but by an increase in assets from \$2.2 to \$6.5 billion (see Table 5).

3. A significant shifting of the regional structure resulted from the expansion of exports to the West. The structure--planned for the expired 5-year plan period--of nominally 70 percent sales to "socialist" countries and 30 percent to "non-socialist" countries, had nominally shifted to a two-thirds/one-third ratio. The structural shifting occurred primarily at the expense of the smaller CEMA countries whose portion sank from an average of 31 percent during the 1976-1980 period to 25 percent during the 1981-1985 period (see Table 1). As a result of this shifting of the regional structure, the GDR now has, after Hungary and Romania, the largest trade involvement with the West among the European CEMA countries. Previously, it had brought up the rear with Bulgaria and the CSSR.

The GDR paid a high price in the domestic economy for the foreign trade relief. According to GDR statistics, as is well known, losses in growth, which cannot be promptly made up for, a slackening of investment, and the curtailment of private consumption were a part of it. In foreign trade, the forced consolidation policy resulted in the assumption of new mortgages.

The /first mortgage/ is the accumulated trade deficit with the USSR. The uninterrupted further worsening of the terms of trade--as a consequence of the second oil price explosion of 1979--and the export diversions to trade with the West not only prevented the originally planned reduction of the deficits by 1985, but the latter had grown by the end of 1985 to 3.3 billion transfer rubles (see Table 5). The Soviet response to the missing imports from the GDR were not only reductions in Soviet raw material deliveries, but above all in deliveries of finished products as well. Thus, in the transportation sector, precisely 40 percent of the total of almost 190,000 vehicles agreed upon were delivered. Instead of 160,000 automobiles, for example, they delivered only 63,273.

The /second mortgage/ from the expired 5-year plan is the highly deformed goods structure in trade with the West. The surpluses in trade with the West were achieved primarily--in the absence of traditional export products from the capital goods sector--by expanding the export of petroleum products. During the 1981-1985 period this export trade rose to just under 27 million tons in contrast with just under 12 million tons in the previous 5-year plan period (see Table 3). In 1982 and 1983 alone these products accounted for an approximately 30-percent share of the proceeds from the trade with the West as well as from the IGT. They had thus become the number-one foreign exchange earner. Even though concentration upon a product group--to be sure, one subject to price fluctuations--at a time of high prices on the world market and low CEMA prices, was correct, this could only be viewed as a short-term emergency program.

The /third mortgage/ arose through the strong throttling back of imports from the West. The volume of imports from the OECD countries declined in the last plan period up to 1985 by almost 3 percent compared to the previous plan

period up to 1980. (Footnote 4) (Calculated on the basis of OECD data which, to be sure, are distorted by fluctuations in the value of the dollar) This means not only doing without technology, but harmful bottlenecks have arisen in the supply of spare parts.

Ambitious Program to 1990

The 11th SED Party Congress in April 1986 also, like its predecessors, provided only scanty background data about foreign trade. Besides, in comparison with the 10th Party Congress, they were even skimpier. The--in some cases dramatic--development in the first half of the eighties was reflected merely in the oft-repeated formulation of global strategy to 1990: namely, to concentrate all forces to "further strengthen the GDR's economic invulnerability" and to expand "the latitude for trade policy." This postulate is comprehensible and to be viewed as the engine for the overall, gigantic, new-old technology program in the current 5-year plan period. The motive behind this is, first of all, further integration in CEMA--that is, above all with the USSR--which has been demanded by the USSR since the CEMA summit in the summer of 1984, for the purpose of achieving greater independence from the West. To give tangible form to this, long-term plan agreements for cooperation in goods production and trade to year 2000 were concluded by the GDR with all CEMA countries; because of the existing high degree of integration in foreign trade, the one with the USSR is of paramount importance. The quality and quantity of GDR exports, required to assure future imports of raw materials from the USSR, require a restructuring of production in addition to the modernization of industry. Two figures illustrate the USSR's wishes in this regard: With raw material imports from the USSR remaining nearly the same in terms of quantity, the exports of industrial consumer goods alone are to be increased by 40 percent and chemical products by 50 percent. The decisive factor in this is qualitative improvement.

At the 11th SED Party Congress, CPSU General Secretary Gorbachev outlined the future cooperation with the following words:

"Comrades: We cannot imagine the future of the Soviet Union without cooperation with the GDR and the other fraternal countries.... The socialist countries are entering a period in which cooperation among them must be raised to a higher level. And this not only by one or two graduations or so, but, as the mathematicians say, by an entire order of magnitude."

The following concrete goals for the period up to 1990 can be filtered out of the small amount of data which is known:

1. A trade volume with the USSR by 1990 of over 300 billion valuta marks was agreed upon. That equates to a growth of 26 percent compared with 1981-1985. The amount is to increase to the 40 percent of total volume already planned but not attained in the expired plan period. The more-than-proportional growth of exports points to a reduction of deficits.
2. From these figures, approximately 952 billion valuta marks (1985 price basis) can be calculated for the volume of the total foreign trade during the

Table 3. GDR Trade in Crude Oil and Petroleum Products

(1) Tabelle 3 Daten zum Handel der DDR mit Rohöl und Mineralölzeugnissen in Mio. t 1976-1985					
(2) Jahr	(3) Importe ¹ von Rohöl	(4) darunter		(6) Exporte ² von Mineralölzeugnissen	(7) darunter Lieferungen im IDH
		(4) aus der UdSSR	(5) Bezüge ³ im IDH		
1976-1980	99.6	88.3	5.6	11.7	10.7
1981	22.7	19.0	1.1	4.0	2.4
1982	21.7	17.7	1.1	4.3	2.4
1983	22.6	17.0	1.1	5.8	2.4
1984	23.2	17.1	1.2	6.6	2.5
1985	22.8	17.1	1.1	5.9	2.3
1981-1985	113.0	87.9	5.6	26.6	14.1
(a) 1986 ⁴	-	17.1	0.7	-	1.5

(b) 1 Ausgewiesene Importe in den Statistischen Jahrbüchern der DDR.
 (c) 2 Fachserie 6 - Reihe 6, Statistisches Bundesamt Wiesbaden.
 (d) 3 Ausgewiesene Exporte in den Statistischen Jahrbüchern des RGW.
 4 Laut langfristigen Handelsabkommen mit der UdSSR bleibt die jährliche Liefermenge unverändert. IDH Januar bis August.

Key: Table 3.

1. Data on the GDR's trade in crude oil and petroleum products in millions of tons, 1976-1985
2. Year
3. Imports of crude oil
4. From the USSR
5. Purchases in IGT
6. Exports of petroleum products
7. Deliveries in IGT
- a. Imports documented in the GDR Statistical Yearbooks.
- b. Technical Series 6, Vol 6, Federal Office of Statistics, Wiesbaden.
- c. Exports documented in the CEMA Statistical Yearbooks.
- d. According to a long-term trade agreement with the USSR, annual volume of deliveries remains unchanged. IGT statistics for January-August.

Table 4. GDR Hard Currency Indebtedness

(1)		Tabelle 4 Hartwährungsverschuldung der DDR in Mrd. US-\$					
(2)	OECD ¹	1981	1982	1983	1984	1985	1986 ²
(3)	Bankkredite	10.7	9.1	8.6	8.5	10.4	10.8
(4)	Lieferantenkredite	1.6	1.6	1.6	1.7	1.6	1.6 ³
(5)	Bruttoverschuldung	12.3	10.7	10.2	10.2	12.0	12.4
(6)	Guthaben	- 2.2	- 2.0	- 3.4	- 4.5	- 6.5	- 6.9
(7)	Nettoverschuldung	10.1	8.7	6.8	5.7	5.5	5.5
(a)	1 Bekannte Verschuldung (ohne innerdeutsche Transaktionen).						
(b)	2 Stand Ende Juni 1986.						
(c)	3 Geschätzt.						
(d)	Quellen: BIZ Halbjahresberichte, für 1986 Quartalsbericht Oktober 1986. BIS/OECD-Statistics on external indebtedness.						

Key: Table 4.

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| 1. Hard currency indebtedness of the GDR in billions of U.S. dollars | a. Known indebtedness (exclusive of intra-German transactions) |
| 2. OECD | b. Situation as of end of June 1986 |
| 3. Bank credit | c. Estimated |
| 4. Supplier's credit | d. Sources: BIZ Semiannual Reports, for 1986, Quarterly Report October; BIS/OECD Statistics on external indebtedness |
| 5. Gross indebtedness | |
| 6. Assets | |
| 7. Net indebtedness | |

Table 5. Balance of Trade Deficits

(1)		Tabelle 5 Kumulierte Handelsbilanzdefizite					
(2)	Innerdeutscher Handel	1981	1982	1983	1984	1985	1986 ¹
(3)	Kumulierter Passivsaldo in Mrd. VE Mrd. US-\$ ²	3.7 (1.6)	3.7 (1.6)	4.1 (1.6)	3.1 (1.1)	3.5 (1.2)	3.6 (1.6)
(4)	Handel mit der SU	1981	1982	1983	1984	1985	1986
(5)	Kumulierter Passivsaldo in Mrd. tr. Rbl. Mrd. US-\$ ³	2.3 (3.2)	2.9 (4.0)	3.1 (4.2)	3.0 (3.8)	3.1 (3.9)	3.4 (4.7)
(a)	1 Stand Ende Juni.						
(b)	2 Umrechnungsverhältnis: 1 US-\$ = 1981: 2.26 VE/DM; 1982: 2.43 VE/DM; 1983: 2.55 VE/DM; 1984: 2.85 VE/DM; 1985: 2.94 VE/DM; 1986: 1. Halbjahr: 2.25 VE/DM.						
(c)	3 Offizieller überhöhter Umrechnungskurs der Sowjetischen Staatsbank: 1 tr. Rbl. = 1981: 1.39 US-\$; 1982: 1.38 US-\$; 1983: 1.35 US-\$; 1984: 1.26 US-\$; 1985: 1.25 US-\$; 1986: 1. Halbjahr: 1.38 US-\$.						
(d)	Quellen: Pressemitteilungen des BMWI. Statistisches Außenhandelsjahrbuch (Moskau). Zeitschrift UdSSR Außenhan- del. Moskau (deutsch) Beilage.						

Key: Table 5.

1. Accumulated trade balance deficits
 2. Intra-German trade
 3. Accumulated debit balance in billions of credits, billions of U.S. dollars
 4. Trade with the USSR
 5. Accumulated debit balance in billions of transfer rubles, billions of U.S. dollars
- a. Situation as of end of June
 - b. Conversion ratio: \$1 = 1981: 2.26 credits/DM; 1982: 2.43 credits/DM;
1983: 2.55 credits/DM; 1984: 2.85 credits/DM;
1985: 2.94 credits/DM; 1986: First half-year:
2.25 credits/DM
 - c. Official inflated conversion rate of the Soviet State Bank: 1 transfer
ruble = 1981: \$1.39; 1982: \$1.38; 1983: \$1.35; 1984: \$1.26; 1985: 1.25;
1986: First half-year: \$1.38
 - d. Sources: Press releases of the Federal Ministry for Economics. Foreign
Trade Statistical Yearbook (Moscow). Supplement to USSR FOR-
EIGN TRADE MAGAZINE (German)

period 1986-1990, which corresponds to a 20-percent rate of increase in comparison with the past 1981-1985 period.

3. The general regional structure which emerged during the expired 5-year plan is in no case to be shifted further in favor of trade with the West. The relevant passage of the party directive on this sounds almost imploring: "That roughly two-thirds of the GDR's international goods trade will be conducted with the USSR and the other socialist countries, is to be ensured by a dynamic development of foreign trade relations with the USSR and the other socialist countries."

4. The agreed-upon total volume amounting to 220 billion valuta marks with the other CEMA countries by 1990--that equates to an annual growth rate of less than 1 percent--contains anything but the dynamism called for above, but, on the contrary, a further decoupling of trade in favor of the USSR is pre-programmed in this case. The share would subsequently decline to an average of 23 percent in the latter half of the 1980's in comparison to 31 percent as last as the latter half of the eighties (see Table 1 in this regard).

5. According to this projection, a proportional growth of approximately 20 percent is foreseen for trade with the "nonsocialist" countries. In the process, "considerable" export surpluses with the Western industrial countries are to be achieved. The pace of growth is to be determined by products of the metal-processing industry.

6. There is hardly any latitude provided for in this projection for appreciable growth of the share of the "socialist" non-CEMA countries--that is, primarily Yugoslavia and China--in the GDR's foreign trade volume. Within the context of the thaw between China and the GDR--the culmination of which, for the time being, was Erich Honecker's state visit in October 1986--a revival of economic relations is foreseen. (Footnote 6) (See in this regard Peter Jochen Winters "Honecker in China," DEUTSCHLAND ARCHIV, Vol 11/1986, p 113 ff.) In spite of the planned expansion of trade with China by 1990 by a factor of 2 and 1/2 times the volume of 1981-1985, the amount of trade with China will nonetheless continue to be less than 1 percent. In the mid-1950's China, with a 7.5-percent share in the foreign trade volume, was the GDR's fourth most important trading partner. It was not until 1985 that the volume of 1955 of 770 million valuta marks was again reached, but the share amounted to only 0.4 percent, however.

Beginning Difficulties in the Year 1986

There were hardly any clues to be gleaned from either the directive, the party congress speeches, or the semiannual report on plan fulfillment that the most recent international economic developments--which could hardly be taken fully into account in the 5-year planning and most assuredly not in the 1986 National Economic Plan--had led to renewed difficulties at the start.

Initially, a slow decline of petroleum prices on the world market became evident beginning in 1983. At the end of 1985 it was 13 percent lower in comparison to the end of 1982. The rapid price drops did not appear until the year 1986,

however. During the first half-year the price of oil was reduced by one-half. The CEMA price, however, because of price setting by averaging, had risen from 1982 to 1985 by 33 percent. It was not until 1986 that it began to decline, but by the middle of 1986 it was twice as high as the world market price (see Table 2).

Not only the oil price fell rapidly, but, since the middle of 1985, the U.S. dollar as well. That, on the other hand, meant for the GDR's export economy a loss of preferential treatment on Western markets--especially, however, in intra-German trade--which it had struggled to attain at the time of the high dollar exchange rate. Now it sees itself confronted again with the aggressive competition of the East Asian basin countries who conduct business in dollars.

The effects of the drop in price of petroleum can be clearly seen in the shrinking of the GDR's profits from exports in the first half-year. In the case of the most important buyers of petroleum products--Sweden, Denmark, Norway, the Netherlands and Great Britain--the decline amounted to up to 40 percent.

While the decline of GDR deliveries in IGT are solely attributable to petroleum products, a kind of balancing out occurred here in contrast to the other countries because of the reduced-rate crude oil supplies from the Federal Republic. To be sure, IGT shrank as a whole, but, since the volume framework remained intact, the structure was improved.

Now it can be argued that the approximately 4 to 5 million tons of crude oil which the GDR gets from OPEC countries in addition to the crude oil imports from the USSR and the Federal Republic have also become considerably cheaper. But the GDR has surpluses with these countries--primarily Iran and Iraq--in any case. Export goods which become available in this case can hardly be diverted to trade with the West.

In the case of GDR imports, sharp increases from those countries--with the exception of France--who were victims of the program of throttling back imports of past years, have been noted for the first time. Among them were Italy, Switzerland and Belgium, and because of the loss of profits in the case of petroleum exports, Great Britain and Denmark. Trade with Austria was noticeably down.

Because of the initial low level of volume in the case of imports, GDR export surpluses in OECD trade, upon careful analysis, can be counted upon. Capital goods, in particular textile machines, chemical products and transport equipment, were purchases from the GDR. For all that, there are apparently some attempts at diversification vis-a-vis IGT. Thus, for example, the first flue gas desulphurization installation in the GDR for the Berlin-Rummelsburg power plant was ordered from Great Britain and not from the Federal Republic.

With all due reservations concerning semiannual figures, trade with the USSR in 1986 has taken a surprising course since, contrary to all planning, GDR exports declined in terms for the first time, and indeed by nearly 9 percent. With 340 million transfer rubles, the highest deficit of recent years has been

incurred (Table 2). It remains to be seen whether this can be made up by the end of the year. In contrast with this development--inferred from Soviet statistics--the plan fulfillment report for the first half-year reported that export and import quotas for trade with the Soviet Union were fulfilled for the first 6 months. (Footnote 7) (NEUES DEUTSCHLAND of 19-20 Jul 1986)

It appears that the GDR was not able to fulfill its delivery obligations in the first half-year although it became known that it was purchasing goods in third countries for hard currency and supplying these to the Soviet Union in place of its own missing export goods. Included in this were textiles from Yugoslavia and pipes from France.

Outlook

At the end of the first year of the new 5-year plan it must be said that the development of foreign trade has hardly proceeded according to plan. The question arises, however, as to whether they were able to succeed in approaching the two strategic goals for the period to 1990: the strengthening of economic invulnerability and the broadening of trade policy's maneuvering room. Could, in 1986, the course be so permanently set towards structural change and modernization of production that a simultaneous structural and qualitative change in the export potential of trade with West and East could be achieved? The investments which have been undertaken--far in excess of that called for by the plan--could give rise here to cautious optimism. (Footnote 8) (According to the data of the plan fulfillment report for the first half-year 1986, the growth rate of investments amounted to 16 percent above the first half-year 1985 (current prices)). Important incentives could result from a closer cooperation with the West--something which has remained a paper tiger to date. It appears that the GDR's economic leadership will prove to be more open than in the past. Joint ventures, though hardly with companies from the Federal Republic, are conceivable in the near future.

Few decisive incentives are to be expected from cooperation within the Eastern economic alliance, CEMA. Within the system, the GDR's economic potential is considered to be far-and-away the technological leader.

Even the new complex program for scientific-technical progress to the year 2000, adopted at the 41st CEMA conference in December 1985 in Moscow, will not, as a large-scale campaign focused on matters of innovation policy, contribute by 1990 to the decisive jump in quality for the GDR's export economy. (Footnote 9) (NEUES DEUTSCHLAND of 19 Dec 1985)

13238/12859

CSO: 2300/228

LEADERSHIP STRESSES NEED FOR STABLE ENERGY-SAVING MEASURES

Bonn IWE WIRTSCHAFTSDIENST in German Vol 28 Nos 1/2, 9 Jan 87 pp 1-2

[Article: "GDR Economy Must Save Energy: Strained Situation in These Winter Weeks"]

[Text] The SED has now once again demanded economy measures to reduce energy consumption. In its latest issue, the theoretical party magazine EINHEIT exhorted the enterprises to adhere to the energy quotas without fail or use less and to stop all waste. This is a precondition for stable supply. EINHEIT announced that new scientific-technical and technological solutions were currently being worked out to lower the specific energy consumption in the entire national economy. In this connection, it left no doubt that this is not a campaign but that the energy-saving policy is aimed at the long term. For the GDR, there is "no economic alternative" to rational energy utilization and conversion, stressed the party journal. Although the measures required for the rational use of energy would be more costly, they are nevertheless "linked with substantially lower costs to the national economy than the provision of additional energy sources." And the additional procurement of energy sources would "not be a reasonable solution" for the GDR. It is essential "to make even more efficient use" of brown coal, which remains the "decisive energy source" of the GDR, "for the production of thermal and electric energy and to refine it on a larger scale for energy and material-economic purposes."

In 1982, brown coal had an 82-percent share in the GDR's production of electric energy. The GDR wants to increase brown coal production to 335 million tons by 1990. Because the mining conditions are becoming more and more difficult, the costs are also rising rapidly. In 1985, the GDR mined 312 million tons and a production of 314 million tons was foreseen for 1986. There are currently 2,300 helpers, including army units, at work in the open-pit mines to maintain production despite the difficult weather conditions.

The energy situation in the GDR is again especially strained in these first weeks of the winter. At recent meetings of regional councils, in particular, there were demands for strict saving measures from the economy, including, among other things, shutting down facilities that are not absolutely necessary and the restriction of the electric heating systems "to the absolutely necessary room temperature." They also called for strict control over energy

consumption in the enterprises. The stable provision of the population and the economy with electric power, solid fuels, gas and heat were designated as a "primary task of great political importance." Werner Walde, first secretary of the SED regional leadership in Cottbus, declared that this winter the coal and energy sector has "to meet the greatest test so far." The energy supply is to be guaranteed at all times and under all conditions. Precisely in this winter, according to Walde, one must show discipline and stay within the quotas, especially in the case of electric power, "so as to give the population stable supplies even during longer periods of cold weather."

According to reports from GDR citizens, there have been local disruptions in coal deliveries to the population in recent weeks. In Magdeburg, for example, there has been criticism from the public because of missed deadlines and delayed deliveries. This criticism must be taken very seriously, declared a representative of the Permanent Energy Commission of the regional assembly. He demanded that the coal trading enterprises supply households on time and as requested.

9746

CSO: 2300/248

DIFFICULTIES ENCOUNTERED IN MEETING CONSUMER DEMANDS

Bonn IWE WIRTSCHAFTSDIENST in German Vol 28 Nos 1/2, 9 Jan 87 p 3

[Article: "Growing Difficulties in Satisfying Customer Demands in the GDR"]

[Text] Demand is to be influenced more with regard to the possibilities in the national economy.

The satisfaction of consumer demands in the GDR is obviously becoming more and more difficult under the conditions of the socialist planned economy. In this connection, the scientific journal of the Leipzig Trade College pointed out "changes in the conditions of demand, which in principle rule out a more or less automatic marketing of the supply." The high standard already achieved in per capita consumption or in the equipping of households with consumer goods and the increasing monetary receipts in combination with a differentiated development of needs led "to a growing disposability of demand." At the same time, higher demands are being placed on the satisfaction of needs. On the whole, the demand is becoming more discriminating, more differentiated and thus less determined and fixed; its growing disposability raises the "marketing risk objectively." The scientific journal stressed that the changed conditions led "objectively to increased demands on the socialist planned economy. It is necessary, among other things, to qualify market research "to recognize changes and development trends in needs and demand in time and to do a better job of making them the basis of the development and formation of supply from the outset." There must also be improvement in "the effectiveness of the plan-methodological, contractual and economic regulation of the cooperation between trade and production with respect to relation to demand, flexibility and economic responsibility." The scientific journal also spoke out in favor of a specific influencing of demand. It results from economic requirements. As measures to influence demand, the journal named the promotion of the sale "of such goods in general that especially correspond to the national economic possibilities of production and imports" or that "are especially suitable" for the formation of "socialist habits of living and consumption."

9746

CSO: 2300/249

LIGNITE POWER PLANTS' SULFUR DIOXIDE EMISSIONS STUDIED

West Berlin DIW WOCHENBERICHT in German Vol 54 No 11, 12 Mar 87 pp 154-157

[Text] Smog alarms were sounded this year in West Berlin as well as in those parts of Lower Saxony and Hesse, which border on the GDR. Air pollution was so bad that, among other measures, cars without catalyzers were banned from the roads. This ban, in particular, aroused public consciousness regarding the provenance of the pollutants. In addition to "home made" emissions, substantial pollutants—specially sulfur dioxide—are carried over from the GDR. Depending on the wind direction, these pollutants are driven to Bavaria, Hesse, Lower Saxony and Berlin.

The DIW investigated the emission of sulfur dioxide and nitrogen dioxide in the two countries bordering on the FRG--the GDR and the CSSR.(1) These studies showed that, in 1982, the GDR emitted approximately 5 million tons, the CSSR about 3.5 million tons sulfur dioxide. Lignite power plants are the main culprits in both countries. They alone account for almost half the sulfur dioxide emissions.

This report presents the results of a calculation of sulfur dioxide emissions by GDR lignite power plants, brought up to date for 1985. These power plants are concentrated mainly in Cottbus Bezirk (roughly 100 km from Berlin, and also in Halle and Leipzig bezirks. In 1985, they emitted roughly 2.8 million tons sulfur dioxide (1982: 2.5 million tons).

Method and Results

The GDR authorities decided at the end of the 1970's to as far as possible replace the imported energy sources oil and hard coal by domestic brown coal. By the end of 1984, fuel oil consumption had been reduced by 85 percent compared with 1979. Fuel oil replacement was thereby largely completed.(2) Lignite output was raised from roughly 260 million tons (1980) to approximately 310 million tons (1985). According to the current 5-year plan it is to rise to 335 million tons by 1990. Slightly less than 60 percent of lignite (1985: 182 million tons) are consumed by GDR power plants to produce electricity and heat. In 1985, brown coal power plants satisfied 83 percent of total electricity production (1980: 79 percent).

Lignite has a relatively low thermal value (GDR average: 8.9 MJ/kg [mega joule per kg], oil, by contrast: 41 MJ/kg). It is uneconomic to carry it across long distances. Power plants are therefore concentrated in the immediate vicinity of the brown coal strip mines east and west of the Elbe. We assumed the boiler coal used to have the following thermal values: Coal from the Lausitz region: 7.3 MJ/kg, from all other areas: 8.8-10.7 MJ/kg. The total 1985 output of lignite power plants amounted to roughly 16,200 MW [megawatt]--71 percent of GDR power plant capacity; nuclear power plants account for another 8 percent.

The largest lignite power plants are located in Cottbus Bezirk; the Boxberg power plant has a capacity of 3,520 MW, enough to supply two cities of the size of West Berlin. In 1985 the second 500 MW block began operations in Jaenschwalde. Two more are to follow in the current 5-year plan period. Concentrated in Cottbus Bezirk is a total of 60 percent (just below 10,000 MW) of GDR lignite power plant capacity.

The extent of sulfur dioxide emissions depends on the volume of brown coal used, its sulfur content and the ash fixation of the sulfur.

The sulfur content of lignite mined in the GDR differs greatly by strip mine and even by seam. In general the coal mined by the Senftenberg BKK [lignite brown coal combine] (mining district east of the Elbe) has less sulfur than that mined by the Bitterfeld BKK. On the other hand, the coal mined west of the Elbe has a higher thermal value.(3) Our calculations of sulfur dioxide emissions by the power plants took into account--as far as possible--the specific parameters of the coal supplied to the respective power plants. The sulfur contents assumed range from 0.7 percent (Lauta power plant, Cottbus Bezirk) to 2.0 percent (Thierbach and Lippendorf power plants, Leipzig Bezirk). These are average values of individual strip mines; they may be substantially exceeded at various times.

GDR data vary with respect to the percentage of sulfur fixed in the ash upon burning. We assumed 30 percent for Lausitz coal, 40 percent for Leipzig lignite. These values may be on the high side. If we were to reduce the rate of ash fixation by 10 percent each, emission values would rise by about 15 percent.

We were able to ascertain the total consumption of brown coal by all brown coal fired power plants from ECE data.(4) It had to be estimated for individual power plants. This required different assumptions that referred to:

Operating hours per year (\times capacity = electricity production),

The specific fuel consumption per kWh [kilowatt hour] electricity,

The fuel consumption for a possible production of heat,

The specific thermal value of the brown coal used.

According to these calculations, total sulfur dioxide emissions by GDR lignite power plants amounted to 2.8 million tons in 1985; this corresponds to about half the total of GDR sulfur dioxide emissions.

Cottbus Bezirk is responsible for 50 percent of these emissions. The district houses the Boxberg BKK, the biggest single emitter of the GDR. It emits almost half a million tons of sulfur dioxide per annum. The coal used there originates in the Nochten and Baerwalde strip mines. Due to infiltrations in this southern part of the Lausitz, the sulfur content of the coal mined there is above average (assumption: 1 percent). The second biggest emitter is the industrial power plant in Schwarze Pumpe that produces a good deal of heat as well as electricity. However, we were able only to estimate thermal output. On this basis we computed an emission value of 0.3 million tons. In 1985 sulfur dioxide emission from the Jaenschwalde BKK amounted to 210,000 tons. It is likely to have been higher by another roughly 10 percent in 1986, because the fourth block did not come permanently on line until October 1985. The Hagenwerder and Hirschfelde power plants located in Dresden Bezirk emit a total of roughly 0.3 million tons sulfur dioxide, with the lion's share originating with the Hagenwerder power plant.

Compared with Cottbus/Dresden, fewer power plants are located in Halle/Leipzig bezirks (3,300 MW). Despite the high-sulfur coal used here, total emissions from lignite power plants are only 50 percent (some 0.7 million tons) of emissions in Cottbus Bezirk. The more important polluters in these districts are the chemical industry and lignite processing plants.

The two thermal power plants (central and Lichtenberg) in East Berlin appear to have been converted to natural gas in 1982.(5) The Rummelsburg thermal power plant also was initially to be converted to natural gas. However, in accordance with the new energy policy, this decision was revised in favor of lignite. The power plant has an electricity output capacity of 180 MW (6) and is supplied with coal by the Jaenschwalde strip mine. The lignite is carried by train to Koenigs Wusterhausen and then by ship to the power plant. The estimated emission value of this plant is about 50,000 tons sulfur dioxide.

On Power Plant Desulfurization in the GDR

Sulfur dioxide emissions produced by burning sulfurous fuel can be substantially lowered by desulfurization equipment. The FRG's large-scale firing plant decree (to take effect on 1 July 1988) prescribes a top value of 400 milligram sulfur dioxide per cubic meter flue gas for a thermal output in excess of 300 MW. Power plants with an output of 36,400 MW are therefore being equipped with desulfurization installations in order to get below this threshold. Despite rising electricity production from hard coal, annual sulfur dioxide emissions from power plants will have dropped radically in 1995 by comparison with 1980—by 1.5 million tons or 75 percent.(7) The investment needed for this reequipping is estimated at DM13.5 billion.(8)

GDR power plants have so far been equipped with dust collectors only. Admittedly, the construction of high chimneys (200-300 meter) better protects the immediate vicinity of the power plant. On the other hand, more distant

regions are more and more adversely affected. A pilot facility for desulfurization is in operation in the Vockerode power plant. It serves as a test for the limestone additive process. This increases sulfur fixation in the ash by adding limestone to the lignite fired.(9) This process is also to be used in three thermal power plants, including the Karl-Marx-Stadt North II thermal power plant. The limestone additive process will not be used on a large scale in the FRG, because it is unable to satisfy the instructions of the large-scale firing plant decree. Most power plant operators decided for chalk or limestone scrubbing (wet flue gas scrubbing). This process absorbs sulfur from the fuel gas, and gypsum, sulfur or sulfuric acid result, depending on the absorbent used.

The efficiency of the limestone additive process is considered unsatisfactory in the GDR also. In 1986 the GDR contracted with a British firm for delivery of a desulfurization plant for the thermal power plant in Berlin-Rummelsburg (formerly Klingenberg power plant). The price (40 million pound sterling) was paid with the help of a loan by the UK Export Credit Guarantee Department.(10)

There are no indications at this time that the GDR is willing in the coming years to make available large amounts of money for the construction of desulfurization plants. The 1986-1990 5-year plan no more than fleetingly mentions this issue: "Flue gas desulfurization needs to be linked to the recovery of valuable substances and the improvement of energy exploitation." The GDR evidently considers desulfurization too expensive. However, by this policy the GDR leaders run the risk of failing to meet the obligation they incurred vis-a-vis the ECE--by 1993 to lower sulfur dioxide emissions by 30 percent below the 1980 level. At the same time the GDR authorities are confronted with an "ideological emergency" vis-a-vis their own population: While the market economies are enforcing various measures to protect the environment, the air is severely polluted in the GDR and public health threatened or impaired. This contradicts the SED leaders' objective to improve the population's material and cultural standard of living.

In recent months the GDR has shown some interest in cooperating with the FRG in matters of environmental control. Here also the authorities are very willing to agree with the GDR on measures to reduce air pollution. Against this background it is quite possible that the GDR will change course with respect to clean air measures. This would certainly respond to the interests of the Federal Republic.

Table: Lignite Power Plants in the GDR by Bezirks

Bezirks/Location	Output in MW	Production in Gigawatt Hours	Sulfur Dioxide Emission (1) 1,000 tons	Chimney Height (meters)
Total	16,200	94,181	2,827	-
East Berlin				
Rummelsburg	180	1,103	47	150
Cottbus				
Total	9,695	59,519	1,435	-
Boxberg	3,520	21,585	459	300
Jaenschwalde	2,000	11,038	208	300
Luebbenau	1,300	7,969	174	240
Vetschau	1,200	7,356	159	240
Schwarze Pumpe	1,050	6,930	320	250
Trattendorf	450	2,592	56	150
Lauta	175	998	18	200
Others	200	1,052	40	-
Dresden				
Total	2,000	12,002	310	-
Hagenwerder	1,700	10,424	263	250
Hirschfelde	300	1,578	47	100
Halle				
Total	1,640	7,625	397	-
Vockerode	385	2,025	70	200
Zschornowitz	225	450	16	150
Others (2)	1,030	5,150	311	-
Leipzig				
Total	1,705	9,323	344	-
Thierbach	840	4,418	139	300
Lippendorf	600	3,156	104	300
Espenhain	140	924	57	200
Regis (Borna)	125	825	43	200
Magdeburg				
Harbke	140	736	20	-
Others	640	3,872	273	-

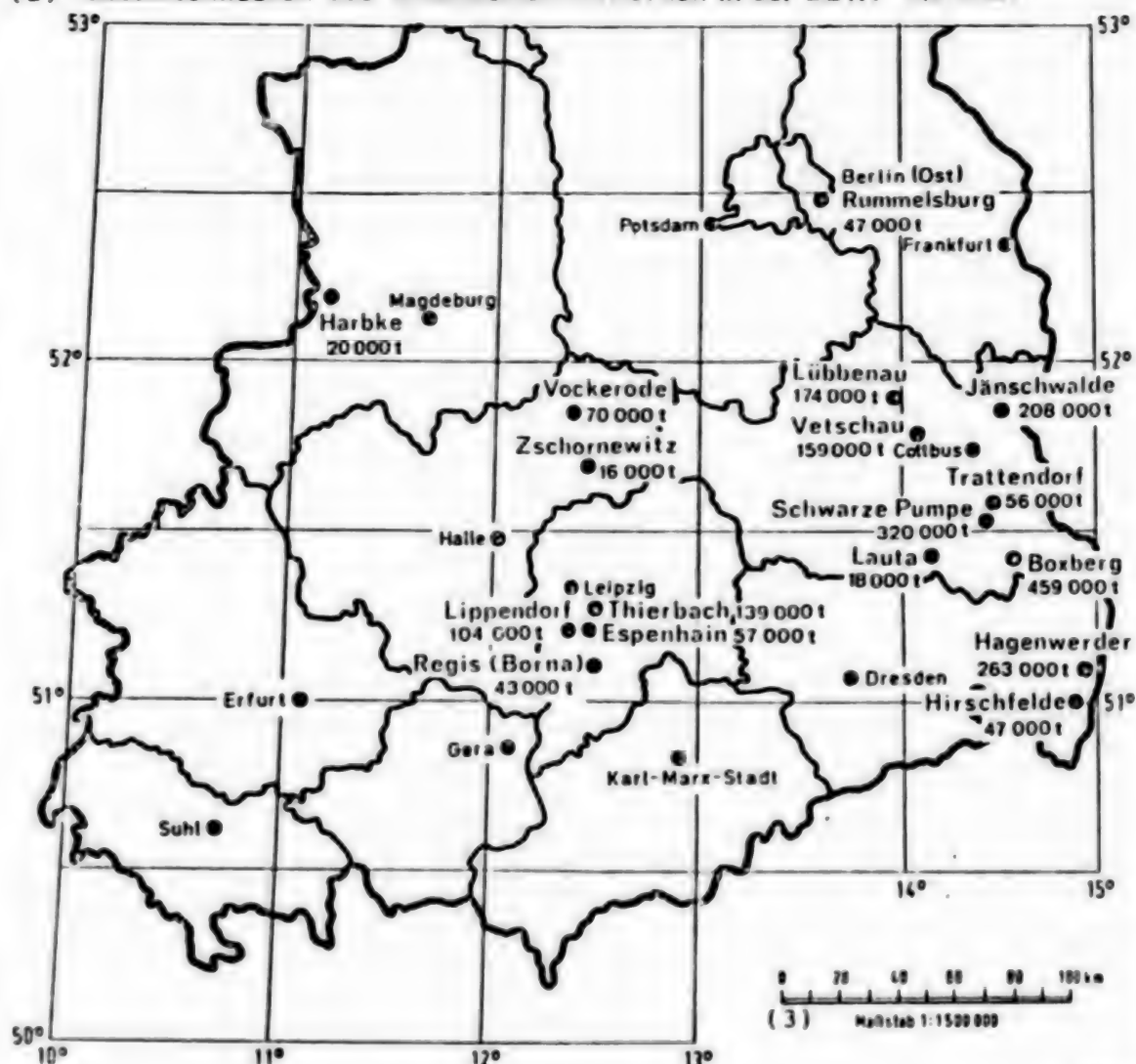
(1) Including sulfur dioxide emissions from heat production.---(2) In Bitterfeld, among others.

Source: DIW estimates.

SO₂ -EMISSIONEN AUS BRAUNKOHLEKRAFTWERKEN IN DER DDR 1985

(1) Emissionen in tSO₂

(2) Gesamtemission aus Braunkohlekraftwerken in der DDR: 2,8 Mill.t



DIW 87

- Key:
1. Emissions in tons sulfur dioxide
 2. Total emissions by GDR lignite power plants: 2.8 million tons
 3. Scale 1 : 500,000

FOOTNOTES

1. See "Air Pollution in the GDR: The Emission of Sulfur Dioxide and Nitric Oxides," edited by Jochen Bethkenhagen, Doris Cornelsen, Rainer Hopf, Manfred Melzer, Cord Schwartzau, DIW WOCHENBERICHT No 30/1985. "Sulfur Dioxide Air Pollution in the CSSR," edited by Jochen Bethkenhagen and Maria Lodahl, DIW WOCHENBERICHT No 46, 1986.
2. See collective of authors, "Rational Energy Use and Energy Substitution in the German Democratic Republic," ENERGIE-TECHNIK, No 1/1987, p 19.
3. For details see Jochen Bethkenhagen, Doris Cornelsen, Rainer Hopf, Manfred Melzer and Cord Schwartzau, "Sulfur Dioxide and Nitric Oxide Emissions in the GDR 1982," DIW structural issue in preparation.
4. See United Nations, "Annual Bulletin of Coal Statistics for Europe," New York 1985.
5. See BERLINER ZEITUNG, 20/21 March 1982.
6. See TRIBUNE, 29 January 1987.
7. See P. Davids, N. Haug, M. Lange, H.-J. Oel and B. Schmidt, "Keeping the Air Clean Upon Power Plant and Industrial Burning," BRENNSTOFF-WAERME-KRAFT, No 4.1985, p 160.
8. B. Schaerer and H. Keiter, "Waste Gas Cleansing in Large-scale Burning Plants," UMWELTMAGAZIN, October 1984, pp 14ff.
9. See NEUES DEUTSCHLAND, 10 November 1986. On the limestone additive process see Wolfgang Kluge, "Desulfurization Steps for the IfE [expansion unknown] Process for Grate Firings," ENERGIE-TECHNIK, No 8/1983, p 318. The same author (among others), "The IfE Process for Thermal Use and Flue Gas Desulfurization—Rational Energy Use Facilitates the Profitability of New Environmental Techniques," ENERGIE-TECHNIK No 1/1983, pp 27ff. The same author, "IfE Processes for Flue Gas Desulfurization in the Burning of GDR Lignite," ENERGIE-TECHNIK, No 7.1981, pp 275ff.
10. See FINANCIAL TIMES, 4 June 1986. The plant operates in accordance with Wellman-Lord process. Sulfur dioxide is absorbed from the flue gas by means of a sodium sulfite solution. Sulfur dioxide may then be processed into sulfur or sulfuric acid. This process is used by, among others, the Buschhaus power plant and block II of Offleben power plant. The operator states the specific operating costs (including dividends and interest payments) to amount to 2 pfennig per kWh in a 350 MW lignite power plant. See U. Neumann, "The Wellman-Lord Process," in "Documentation on Flue Gas Cleansing," supplement to BRENNSTOFF-WAERME-KRAFT, No 9/1985, pp 41ff.

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CSO: 2300/245

VARIOUS SOFTWARE APPLICATIONS; POTENTIAL ECONOMIC USES VIEWED

East Berlin WIRTSCHAFTSWISSENSCHAFT in German Vol 35 No 3, Mar 87, pp 323-38

[Article by Evelyn Wittich, Dr of Economics, engineer, senior assistant at the Institute for Political Economy of Socialism, Academy of Social Sciences, CC SED: "The Multivalence of Software and Possibilities of its Economic Use."]

[Text] The accelerated introduction of key technologies in the form of information technologies such as CAD/CAM and flexible automation equipment is accompanied by a growing demand for software. This demand can only be met gradually by markedly increased efficiency in software production and utilization. An important factor in this connection is the economic use of the multivalence of software.

The author closely investigates the efficiency potential of the multivalence of software, starting from a definition of the term and an examination of the basic preconditions for an extensive utilization of that multivalence. Software multivalence can only be fully achieved and used if this is in the economic interest of both the manufacturer and the user.

The utilization of software for various purposes is effected in technologically different forms depending on the kind of software and a number of external conditions. Highly effective software information systems, e.g. program banks, are one essential precondition for the economic use of multivalence. The author gives a survey of development trends and the present situation in developing and introducing such a system in the GDR.

In a socialist economy it is possible to develop the information and production potentials of software geared to their application and for concerted utilization. In connection with the development of efficient software production potentials in the GDR the author discusses the pros and cons of capitalist software firms.

The increasingly effective combination of the advantages of socialism and the achievements of the scientific-technical revolution, which was made the center of economic strategy by the XI Party Congress of the SED (1) will prove its value particularly for the introduction and utilization of key technologies. The accelerated introduction of information technologies as key technologies, in particular in the form of CAD/CAM solutions, leads to a demand for software

which is growing at an extremely rapid pace. Software solutions for the different tasks in design and planning, in the production preparation phases in general, must be developed and quickly made available to a wide circle of users. There is an increasing demand for powerful software for flexible automation projects, in particular for production control and monitoring, for process control computers, machine tools and industrial robots, but also for microprocessor-based products. Software is required increasingly for office automation, in particular due to the use of wordprocessing systems, for computer use in banks and savings institutions, in transport and in the health field, and in the non-producing areas in general.

However, the rapidly increasing demand for software is not due only to the increased number of application areas. As computer generations were developed, it became clear that increased performance capacity of computer technology also involves an increased demand for software, that the required solutions become more complex and extensive. At present, this is particularly striking in the development of the first "intelligent" systems, which are capable of limited decision-making. In order to be able to evaluate, for instance, an image based on a certain information content in an optoelectronic system, a multitude of image dots must be recognized, assigned and combined into overall information. This requires the availability of extensive software solutions. This strong demand for high-quality software solutions requires great efforts in our national economy, "...in order to organize software production both among producers of modern computers and among their users." (2) At the same time, the highest economic efficiency in the production and use of software must be ensured.

The combines of our national economy, which are primarily in charge of software production, are working increasingly towards making software production more effective. (3) To make increasingly complete use of the efficiency potential of software and to better meet the demand for software, the purposeful utilization of the advantages of socialism which lead to more efficient production and a more effective use of software is necessary.

The following main sources for increased efficiency in the production and utilization of software can be identified:

1. The increasingly targeted utilization of the specific software properties, in particular the economic utilization of multivalence;
2. The purposeful improvement of software quality including standardization
3. A planned and efficient arrangement of software production based on the division of labor

This paper focuses on the multivalence of software and possibilities of its economic utilization in socialism and on aspects of software production based on a division of labor.

Economic Potential of Software Multivalence

Certain processes and problems which can be handled by means of information-processing techniques frequently have identical or similar characteristics. This is due to the fact that on the one hand the same scientific methods -

e.g. mathematical calculation methods - can frequently be used in intellectual creative work in order to solve very different objectives. On the other hand, already existing problem solutions are also suitable for the implementation of new objectives which appear to be completely different at first glance. The reason is that by using information-processing technology certain intellectual activities of man are transmitted to technology via software, and thus certain patterns of thinking, of intellectual-creative work are of basic significance for the production and also the utilization of software. While these relationships will not be examined further here (4), I do want to state one important conclusion: Just as the results of scientific and intellectual-creative work can basically and potentially be used in multiple ways, so can software products be used as specific products of intellectual-creative work.

The term multivalence generally means many values or multiple values. Related to software this means that software has the property to be usable in multiple ways, i.e. it is reuseable. The multivalence of software is derived from its property of being the product of primarily intellectual work. Within the dialectic unity of hardware and software the relative independence of software favors its multivalent property. The possibility to use software products many times and to duplicate them at relatively low cost favor the economic utilization of software multivalence. However, to begin with, software multivalence is only a potential multivalence, a possibility to favorably configure the ratio between cost and return in software production and utilization. In every case, translating this possibility into economic reality requires the planned utilization of this software property.

Generally, the following is true: A software product is multivalent if it can be used for the solution of equal and different tasks, because it is a product of general, intellectual work and not subject to physical wear and tear. These tasks can be solved according to the same algorithm under identical or very similar, i.e. compatible conditions with regard to computer technology. The multivalent property of software makes it possible for the first time in the history of means of labor to make multiple use of certain means of labor— i.e. software. This is a historically novel form of reusing what has already been produced. This brings up the question whether it is possible to utilize software multivalence purposefully and economically, thus markedly reducing the expense of software production—by maximum possible reuse instead of independent production—and to render the effectiveness of software production overall more favorable with great economic benefits derived from its application.

The utilization of software multivalence promises significant benefits for the economy of society's work as, for instance, in the form of significant savings in human labor and time. Thus, it requires a completely new arrangement of the work processes. The multiple use of software results in completely new requirements for process and technological discipline in the development of software products, their documentation and storage, their connectivity based on the selection of interfaces, but also the systematic and clearly defined arrangement of work and production processes. These are stringent requirements placed on the intellectual-creative work and the processing of its results in the most diverse production and work processes.

Basic Prerequisites for the Extensive Use of Software Multivalence

From the experience gained so far in the beginning stages of a multiple use of software three basic prerequisites for a wider use of software multivalence can be identified:

1. There is a need for more scientific preparation regarding the conditions for this multivalence which have to be met and the requirements for analysis and configuration of the various processes. Each basic type of software and each form of reuse has its own conditions.
2. The multivalence of software can be used on a larger scale and thus in an economic manner only if high-level, high-quality information systems for existing software are available, for instance, as program bank system.
3. However, in order to fully utilize software multivalence under socialist production conditions the most important factor is the creative initiative of the workers who use information-processing technology and who are responsible for it. In addition to broad interests, dedication, an overview over all available processes and in addition to the necessary technical knowledge other requirements are a definite willingness for team work and intuitiveness together with imagination with regard to the new requirements of modern technique and technology and its effective utilization as well as for possible characteristics of its producers and users necessary for its implementation.

It is particularly important to develop the willingness and ability among software specialists

1. to produce software specifically with multivalent properties
2. to use software with multivalent properties for the solution of problems, and
3. to offer and make available software with multivalent properties in an economically effective way.

However, the development of these attitudes among software specialists has to be supported and/or accelerated by utilizing the achievement principle, for instance by an effective incentive to produce, use, and offer software with a high degree of multivalence.

A number of practical examples shows that a creative search for the reuse of existing programs is undertaken particularly in those cases where powerful software is needed as quickly as possible and where very limited capabilities for software production are available. Here, the first consideration is where, in which industries, combines, factories or institutions similar or identical tasks need to be solved, which are based on the same algorithms. Thus, for instance, statistical calculations of buildings, in machine construction or ship building, but also in the furniture industry are frequently based on the same calculation methods, and it seems reasonable to make multiple use of certain software products. A similar situation exists for software solutions which were developed to support the work of mold makers, since it basically

does not matter whether such a program is used for the design of shoes, dishes, or silverware. For such an approach, starting with one's own task the essence of the task has to be extracted and abstracted from the concrete conditions, and one has to seek out cooperation with other areas which deal with similar types of tasks.

Under socialist production condition the purposeful use of software multivalence also depends on the interests of producers and on software users. Both must derive economic benefits if the abstract possibility is to be translated into real multiple use or reuse. The software producer must also derive an income or additional income from the multiple use or reuse which exceeds the additional cost and results in an improvement of his ratio between cost and return. By reusing software the users derive primarily the following benefits:

1. Increase in software production productivity,
2. Increase of the scientific-technical level of one's own problem solutions by using the know-how of already tested programs.

Compared to independent development, reuse is almost always less expensive. Despite different statements with regard to cost reduction the majority of users estimate the savings from reuse depending on the extent of the reused program or program part to be two thirds to one half of the expense which has to be earmarked for independent software production.

Reusable software can be made available within a shorter time than software which has been produced independently. The increasing size of the software product naturally also lengthens the production process, and the time factor assumes a central importance for reuse. These effects must overcompensate for the potential disadvantages related to the reuse of software. These disadvantages can be the result primarily of the compromise between the requirements of the user and the performance capacity of the reusable software solutions. Reuse frequently also entails expenditures for adapting to the specific problem solution of the user. It is also possible that run time and storage requirements for the software available for reuse are not configured as favorably as is the case with independent developments. If the universal application of reusable software cannot be utilized for one's own specific tasks, the expenditure for its acquisition may seem unjustified. These disadvantages must be weighed together with all advantages, such as time savings, savings of software capacities and safety due to tested programs.

The economic benefit which producer and user can obtain makes software multivalence an economic potential. If Marx counts the shrinking of time and space by means of communication and transport among society's forces of labor (5) this is true in particular today and even more so of information-processing technology and the software required for it. By utilization of this technology space and time are shrunk to an extent unheard of to date. But it is not only the general high performance of technology and software which contributes to this situation, multiple use of software also plays a part in the shrinking process of space and time and thus in an increase in society's work productivity.

Forms of Software Reuse

Translating the possibilities of software multivalence into real economic effects involves taking into consideration differentiated conditions and forms of reuse. Possibilities and limits of software multivalence utilization are determined by

- technologically different forms of reuse,
- different types of software, and
- a number of conditions which will be discussed later.

For practical applications, all three components interact.

Previous experience has shown that careful program documentation is one of the basic prerequisites of software multivalence. The availability of meaningful and uniform documentation will determine whether it will be possible to familiarize oneself with a software product and how much effort it will take. It will also determine whether a product can be evaluated to an extent that it can be considered for reuse. The availability of meaningful documentation—meaningful for the intended user group—is of great importance particularly in the utilization stage of a software product. Maintenance, streamlining, further development and simply the application of software are practically impossible without documentation, at least they are made much more difficult without it. Therefore, great attention should be directed to the development of high-quality documentation.

The first and basic differences between the various forms of reuse with regard to the utilization of software multivalence cover the following aspects:

1. the reuse of software in the form of complete programs, program systems, or program packages for identical problem solutions;
2. the reuse of software in the form of program parts or modules for similar or different problem solutions or those which are partially identical;
3. the reuse of basic solutions, of know-how defined as the reuse of scientific, scientific-technical, technical-technological, and organizational solutions in the form of algorithms to support the design process. While this type of software does not yet constitute a finished product, intermediate products can be used for different purposes—as is the case with other products. To that extent, we can also speak of "software reuse" in this context.

A second difference exists between basic software types, i.e. between system-oriented software, including closely system-related software, specific application solutions, and basic or standard user software. In addition, there are the so-called software tools, which are used to increase the efficiency of software production. More attention should be directed to their multivalence in particular under this aspect.

The multivalence of system-oriented and closely system-related software depends largely on the quantitative use of hardware, since each device requires its operating system or each graphics terminal requires its graphics software, etc. In order to be able to transfer system-oriented software from

one computer generation to a new one, preconditions for maximum possible portability (transferability) must be created both for hardware and software development starting with basic research. Even if it is not possible and expedient to fully transfer system-oriented software from one generation to the next—because the new hardware solution is clearly more sophisticated—it can by no means be excluded that partial or basic solutions can be reused for the new system-oriented software. In view of the extent of current system software products this is of considerable economic significance.

The multivalence of specific user solutions, related in particular to means of labor, to product-related solutions, is almost always of benefit for only that user who is also the primary producer of his own specific software. Therefore, he himself is primarily interested in a reuse of his products and in storing the software solutions, in order to possibly reuse at least the basic solution, also in algorithm form, at a later time. The more specific the user solution, the lower the reusability of software multivalence. In the interest of high production efficiency and utilization, the increased inclusion of information-processing technology in products requires the increasing utilization of the multivalence of specific user solutions. This should be taken into account at the very beginning when programs and their structure are developed so that one can go back to existing solutions in the future when similar processes and solutions are repeated.

This also requires that combines and factories have their own powerful software potentials.

The economically very profitable and most significant possibilities for reuse which have not yet been sufficiently explored exist for basic or standard user software. This type of software makes up the largest part of problem-oriented software available in the GDR. This software can be reused in basically all three forms listed above. This software must also include programs for standard type solutions. In the GDR, extensive experience was gained in the reuse of product-related software products for standard type solutions. They are intended for reuse from the very outset. This provides the opportunity to concentrate potential throughout the whole process, from scientific preparation to software production. The user group is determined in the planning stage of these software products which are usually extensive and is frequently related to this specific project using software production design based on a division of labor. Since it is possible to a large extent to include the specific requirements and conditions of the various users, in many cases several versions are available for specific solutions—including compromise solutions. Standard type solutions have the great advantage that the minimum number of reuses is specifically planned and that the payback period for expenditures can therefore be estimated fairly accurately.

Outstanding software products for standard type solutions in the construction industry of the GDR are, for instance, the technological product lines of single-story multiple-purpose buildings (EMZG) and multi-story, multiple-purpose buildings (MMZG). So far, approximately one million square meters of building area was designed with EMZG resulting in an increase in design output of 200 percent compared to catalog design and of 250 percent compared to the average design output in industrial construction. The payback period of five

years for the development expenditure calculated in 1973 was implemented and shortened. The continued maintenance and development of the program system makes it possible to reuse EMZG even today. Such proven software solutions are particularly suitable as a basis for CAD solutions. The CAD solution for the "shell for multi-story, multiple-purpose buildings of the construction system Unified Story Construction (VBG)" is an example.

With software products for standard type solutions the extent of reuse can be planned relatively precisely, however, for individual programs this cannot be done with equal precision. While standard type solution software depends on the product, and its multivalence is largely limited to it, problem solutions which can be implemented with individual programs can also have a cross-sectional character and therefore higher multivalence. These are programs for implementing mathematical methods for the sizing of areas or for statistical calculations, etc. Therefore, these can also be called standard user programs.

Currently, the great majority of standard user software is not reused to the extent possible. The primary reasons are:

1. The software products are insufficiently suitable for reuse, because of:
 - poor documentation and insufficient user training,
 - insufficient user friendliness and flexibility of programs,
 - solutions are too specialized,
 - insufficient testing of software products and thus insufficient safety for the user.
2. The user does not have the necessary prerequisites:
 - There are too few qualified workers who are willing to accept "foreign" programs, since highly qualified problem analysts would rather develop their own software than reuse it;
 - the organizational solution of the user is different from that implemented in the software solution.
3. There are still numerous possibilities of perfecting the scientific as well as planning and control prerequisites for a better utilization of software multivalence or to use it in factories and combines.
 - With the statutory regulations (6) important preconditions have been created for a better economic stimulation of software reuse. Now, it is a matter of applying them and using the experience. Such measures must be used in particular to gradually remove the subjective reservations which stand in the way of a better utilization of standard user software multivalence.
 - To meet the urgent need for a powerful information system using existing software and software which is currently in production statutory regulations (7) were put into force which are geared towards a more intensive reuse of software.
 - Increased scientific research in the field of software technology is required in order to make software products reusable and provide them with a modular design.

Apart from the differences in the types of reuse and types of software which were discussed the multiple use of software also depends on a number of conditions which must always be met. They include:

1. Uniform, coordinated and compatible hardware (this refers to electronic data processing installations, peripherals, and communication systems);
2. Transferability (portability) (8) of software from one computer technology to another;
3. The process design on which the respective software product is based must be compatible with the process design of the reuser, and as already mentioned above,
4. Willingness of the cadre to produce and use multivalent software.

Among these conditions which must always be met we want to discuss primarily the third one, since many software producers of the combines researched found that the inability to use the multivalent property of the software is due to the difference in the process design. High-quality user software is not reused in an extraordinary number of cases because the processes of the potential users are organized differently and are not changed due to subjective, but also objective reasons (changes can be very cost-intensive). As a consequence, we have, for instance, innumerable payroll and material accounting programs in our national economy. Therefore, a largely uniform solution in the organization plays such an important role when redesigning production sections, as, for instance, for automation projects. The uniform organizational design for the automation of processes of production preparation as well as for control and planning is not that expensive, but very frequently it encounters strong subjective reservations, which are rooted in customs and traditions, and also in objective circumstances. A particular obstacle is the fact that the theoretical preparation from basic research for a uniform process or system design is not always sufficiently available or known.

Powerful Software Information Systems as a Basis for Software Multivalence Utilization

The current development state in the utilization of information-processing technology--internationally as well as in the GDR--makes it possible to use multivalence effectively supported by software information systems (9) due to the computing technology of the 4th generation. Such effective use is required in the interest of increased effectiveness in the production and utilization of user software.

It is the purpose of such information systems to deliberately organize and promote the process of software reuse and thus to increase the extent and length of time the software can be reused. To make this possible the software must be collected with a clear goal in mind, must be edited in a customized and reliable manner, and must be provided in user-friendly form. Moreover, modern information systems make it possible to evaluate and monitor the quality of stored software products.

In the future, information systems will be part of sophisticated software technologies and will contribute to the effective design of all phases in the life cycle of a software product. For the identification of the tasks involved in the development of a new software product the system provides the information whether a reusable software product or modules that can be expanded for solving the task are already available.

In order to achieve a better ratio between cost and return in software production the international focus is on the development and use of means of program technology by further development of software production methodology, such as structured programming, software tools, modular programming, and connection of pre-produced program parts or technical languages and the creation of computer-assisted system solutions for software technologies by

- using computer-assisted, interactive software workstations or development systems, and by
- using computer-assisted, interactive software information systems to support individual processes of software development.

The possibility of producing software solutions at the computer-assisted workstation using program and algorithm banks must be considered essential for increased work productivity and quality in software production. Software production, in particular the design process, is supported not only by the reuse of programs, but also by the reuse of algorithms. Even if no precise international data on obtainable increases in effectiveness have been published yet, the economic necessity of software information systems for increased effectiveness in software production is indisputable.

The reuse process occurs in the "production" phase and in the "utilization" phase of the software life cycle. Working with program bank systems makes it considerably more efficient.

This is possible due to

- rapidly available and technically correct information on existing programs and
- the simultaneous possibility of making available desired software products by the program banks.

However, program banks can also point out that it is necessary to remove software products, if they are morally outdated, i.e. with regard to content or their level of computer technology. On the one hand, this enables the user to keep his supply of programs current and on the other hand they indicate a new demand which is important for the production planning of the software producer involved.

The capacity of modern program banks differs from conventional information systems via software--as was the case, for instance, with the program and project center (PPZ) of the VEB combine Robotron--as follows

- Information service for existing programs and their capabilities
- Procurement service: the software can be made available to the user
- Quality control service: the software quality is evaluated and monitored;
- integration into the work methodology of software design.

- Information service by processing research requests; here, only the information provided by the software producer primarily at his own discretion was passed on.

Such program banks which are built on the basis of data bank technology and for which there is already a pilot solution of the Academy of Sciences of the GDR are oriented towards special areas and are administered by technical experts. Technical experts are specialists in specific fields who utilize software to solve the related tasks and who are able to give a representative description of solvable problems, to assign reusable programs and to evaluate their quality.

In the Law Gazette, Part I, No. 9 the design of a software information service is also based on the principle of technical know-how. (10) This means that the software producers who are leading in a certain field also design and administer the related program banks. The information and advisory services for software which are organized by special areas come under a Central Information Bank Software in the VE combine Data Processing where the necessary bibliographic data as well as performance parameters of the software available and under development in the GDR are stored. The organization of this information service which encompasses the whole GDR is based on experience gained with the pilot solution of the Academy of Sciences for the further development of software technology in the GDR.

A software information system comprising the national economy which will also be part of an informational infrastructure in the future is an indispensable part of information technologies. The effectiveness of CAD/CAM solutions is considerably limited without simple access to local and central program and data banks. In order to develop software information systems on the scale of the national economy other prerequisites must be created in addition to the technical, hardware-related ones including

- regulations for the legal protection of software including the right to access information systems;
- measures to determine, safeguard and monitor software quality including standardization;
- standards for contractual performance relations;
- stimulating regulations to promote and stipulate the reuse of software products including the determination of user fees for such information services.

Socialist conditions provide very favorable basic possibilities for providing networked program bank systems to be used by the most diverse combines, factories, government and scientific institutions. The socialist society has the advantage that there are no basic separating barriers against the establishment of informations systems, in particular for the collection and redistribution of information in the national economy. This does not rule out the necessity of establishing precise rules (see above) regarding the handling of information or software in a socialist national economy as well. The more goal-oriented utilization of software multivalence by networked program banks gains increasing importance not only within the framework of our national economy, but also beyond it for the CMEA region.

Capitalist Software Houses - Simply Worth Imitating?

In connection with the development of potentials for the production of software the advantages of "software houses" which sprung into existence practically overnight in the developed capitalist industrial countries were discussed for our economy as well. Capitalist software houses are software production potentials which have specialized in the production of certain software products and which offer both individual software products--mostly in the form of standard user software--but also total solutions for the most diverse special areas. Specialization now extends to all types of software. There are software houses which primarily

- produce system-oriented or closely system-related software with software houses closely gearing their work to certain hardware producers, i.e. they committed themselves to certain hardware,
- produce problem-oriented software, which is offered both as a standard user solution but also as customer-specific user software, or
- which offer system solutions including hardware.

The extremely high profits which were made and are being made by a number of software houses make this form of concentrated software production look very attractive. In many discussions on the concentration of software capacity in our economy the opinion is voiced that software houses should be developed under our socialist production conditions as well. Therefore, the following discussion will look into the advantages and disadvantages of software houses as well as their social determinacy in order to derive from this discussion ideas for an effective development of high-performance software production capacities in our economy. The advantages of capitalist software houses are generally identical to the advantages of the socialization of production and labor, applied to software production.

Concentration of production potentials is the first step towards the transition to an industrial software production and thus basically improves the ratio between cost and return. It becomes possible to use powerful hardware in the form of computer-assisted workplaces for software production, and thus to shorten not only the production phase but also to markedly improve software quality. The application of software technologies and tools can be standardized, and the individuality of problem analysts and programmers can be reduced in favor of a more systematic approach and transparency of processes. In this process, methodological know-how regarding information-processing

processes is being accumulated. Since the software houses have to specialize in certain areas of application in order to remain competitive in the long run, they accumulate expertise, know-how, in the respective technical areas.

These advantages of software production based on a division of labor are used under capitalist conditions, i.e. in the form of software houses, but cannot reach their full potential. A few basic reasons for this will be listed below.

There are several competing software houses for one special area which—each for itself—develop or buy the know-how or have it developed by research institutions. As a consequence, not every software producer can offer state-of-the-art know-how. The potential user finds it difficult to select a reliable software company from among the great number of competing ones, since advertisement does not offer any guarantee. The reliability and trustworthiness of software companies, e.g. in the FRG, is described as follows:

"Much has already become known from other sources about computer criminality—some crooked tricks were sometimes outright grotesque. Most recently, however, a new factor seems to have been added to these illegalities: Not only are computers and programs being manipulated, no, now complete program packages of reputable software houses are being bought by mostly one-man dummy corporations, are copied and resold to interested customers for slightly less than the original price. According to estimates by informed circles in the FRG certain programs—preferably for microcomputers—are copied and marketed two to three times as frequently as they were officially purchased by microcomputer users." (11) In 1984, software pirates in France were financially ten times more successful than bank robbers in 1984. (12)

The selection of the software house is so essential for the customer because in doing so he also makes a choice for the future. The users become dependent on the software houses by the simple fact that the software of different software houses is not necessarily portable. However, once the user has a basic supply of software, new acquisitions must be compatible with it.

An important source for the extra profits of many software houses is the multivalence of software products which provide the opportunity of selling a product several times. This induces the capitalist software producer to make his products as user-friendly as possible, as attractive for the user as possible, to design them as modules and to tie his customers to his products. Within the production cycle of a software house the work is based on standards and standardizations, i.e. the multivalence of software products is being developed in order to achieve high labor productivity and a favorable ratio between cost and return, i.e. to remain competitive.

A few software houses without firm ties to computer companies also try to make their software production independent of a specific hardware in order to reach high sales figures. This is true of system-oriented software products such as the operating system CPM for microcomputers or standard user software. However, comprehensive problem solutions are in most cases company-specific. This company orientation makes it impossible to fully develop and utilize

software multivalence, i.e. to make the software products generally reusable. Therefore, their sales products are mostly specific in order to avoid multi-applications for the user and to avoid profit reductions. As a consequence, software houses do or pretend to do parallel and double developments and in the final analysis society's work capacity is wasted. Another fact supports this as well. The open proliferation of know-how, relating both to the special area and the methodological knowledge in the automation of information processing processes (software technologies, tools, and more) is consistently being blocked by the software houses.

While software producers in capitalism attempt to market their programs and make them servicable, they intentionally maintain a knowledge gap between themselves and the user, the purchaser of their products, because it is a starting point for new profits. Although the constantly increasing demand for software solutions generally promises high profits, it is no guarantee. This can be seen from the fact that while many software houses are being established, the bankruptcies of software houses have markedly increased in recent times. The capitalist competitive mechanism also extends to software houses. To remain competitive it is increasingly necessary to fulfill the specific user requirements. From the user's point of view, there are also a number of reasons against the use of standard user software from software houses such as lack of familiarity with the user's problems, doubts about the soundness of the supplier, bad experience with the use of standard software packages, the necessity of big changes in one's own organization, excessive cost of additional services, insufficient adaptability to existing software, etc. This noticeable rejection of standard user software is on the one hand due to sometimes considerable deficiencies, which generally characterize current standard user software, and on the other hand to the practices and limits of capitalist software houses. Capitalist software houses obviously have limitations when it comes to the development of general software multivalence which brings both economic advantages both to the producer and the user and in particular to the economy.

When developing software production capacities in our economy the advantages of capitalist software houses should be included, and their disadvantages should be excluded as much as possible. The development of software potentials should also take place on the basis of the existing and developing management structure in the national economy of the GDR which is characterized by the state-owned combines with their research institutions, by concentrating software capacities according to the principle of expert knowledge combined with special field oriented information institutions.

Efficiency Based on the Combination of Special Field Oriented Software Information and Production Potentials

Theoretical studies and previous practical experience indicate that the degree of division of labor, specialization, cooperation, and concentration in socialist software production is largely proportionate to the multivalence of the software to be produced. With greater multivalence a more pronounced division of labor, specialization, concentration, and cooperation of production potentials is required. The studies of the multivalence of the individual types of software indicate that it is greatest for system-oriented,

closely system-related software as well as standard user software or basic user software. Specialization for specific user solutions means specialization with regard to the product. Scientific-technical progress via software must proceed from this basis, and the forms of socialization will be utilized primarily within each combine. Therefore, the multivalence of software solutions is primarily of interest within the framework of product development, and the information regarding such solutions should be provided with the help of specific factory program banks.

However, it is not simply a matter of advancing the process of socialization of software production, but of planning socialization in this area in a way which guarantees high efficiency both in production and in the utilization of software due to high product quality, including extensive development of multivalence as a software property which determines quality. The development of software production capacities based on the principle of expert knowledge provides the most favorable preconditions for meeting all these requirements. To proceed according to the principle of expert knowledge means producing the software at that location where the required special knowledge is available or where the most favorable conditions exist for accumulating it there. Implementation of the principle of expert knowledge is based on the following insight: There is no such thing as general user software the production of which must be combined for the whole national economy. Standardization within the economy is possible, just as the development of tools and methods for software production can be centralized, but a universally applicable software does not exist.

Structuring the production capacities for software by special fields is only possible when society's ownership of production means is used which does not erect insurmountable barriers between the individual software producers. The advantages of a special field oriented concentration of software production within the framework of a national economy consist in the fact that

- the advantages of socialization of production, such as increased labor productivity by specialization and division of labor, by the utilization of high-performance information-processing technology, progressive tools and methods, or by efficient cooperative relations are applied to software production;
- the multiple production of software with identical or very similar user value will be avoided to a large extent and thus also the waste of society's work potential;
- the software products are of the highest scientific-technical level—at least within our national economy.

The possibility of concentrating the production of standard user software—including algorithm research—according to special fields and base it on a division of labor, favors a concentration of standard user software production in different industries. Research institutes of the industries are particularly well suited as places of production, since they have accumulated know-how for the products of the respective industry, and a concentration of information-processing technology is useful not only for software production, but also for research and development. This means at the same time that experts become software specialists, or vice versa.

The research institutions of the industries usually have effective cooperative relations with universities, technical universities and colleges, which can be expanded to include software production. Here, the universities, technical universities and colleges should be included in the production of standard user software according to the principle of the division of labor. The research institutions or organization and computing centers of other areas—productive or non-productive—provide good conditions for software production, or these conditions can be created.

To concentrate software production capacities where the special knowledge is concentrated is also important for the development and maintenance of special field-oriented software information systems. This is particularly in the interest of a reliable user service, since the producer can be consulted when problems arise.

Software production in the GDR cannot be established without international cooperation within CMEA, since one country alone is not able to effectively develop software production in full depth, with all its components. This is particularly true of the development of programming languages, software technologies, but also of complex, modular, problem-oriented software products, for the development of which, for instance, a division of labor can be implemented so that the country, which has the scientific preparation, scientific-technical top positions in certain areas and which also produces the related software products, provides at least the algorithms, i.e. it cooperates based on the principle of expert knowledge. Under socialist production conditions software production and utilization can be organized so that there is an economic benefit for both the producer and user, and the economy as a whole and the CMEA countries can derive advantages from it.

1. See "Report of the Central Committee of the Socialist Unity Party to the XI Party Congress of the SED", reporter: E. Honecker, Dietz Verlag, Berlin 1986, p. 49.
2. Ibid., p. 30.
3. See J. Funke, "Efficient Production and Utilization of Software", "EDHEIT", issue 8/1986, p 747 ff.
4. The scientific disciplines of cybernetics, information theory and artificial intelligence are primarily engaged in researching thought patterns and the possibilities of applying thought processes to technology.
5. See K. Marx/F. Engels, "Werke", Dietz Verlag, Berlin, 1956ff, volume 16, p. 127.
6. See "Rule of 13 Jan 86 regarding Software Planning, Assessment, and Accounting", "Law Gazette of the GDR", Part I, No. 4/1986; Price Rule No. 8 regarding the Pricing of Software", "Information by the Agency for Prices", No. 8/1985.

7. See "Rule of 26 Feb 86 regarding Information and Consultation Services for the Development, Production, and Multiple use of Software in the GDR", "Law Gazette of the GDR", Part I, No. 9/1986.
8. Portability: A measure to indicate how easy it is to transfer a program from one computer environment to another one, e.g. by using uniform programming languages. Portability is a principle to ensure the transferability of programs from one computer system to another one using compilers.
9. Software information system: System to collect, store, retrieve, and provide programs and/or algorithms and/or their characteristics.
10. See "Rule of 26 Feb 86..." loc. cit.
11. See "RECHENTECHNIK/DATENVERARBEITUNG", issue 10/1983, p. 35.
12. See ibid., issue 5/1985, p. 3.

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CSO: 2300/226

BRIEFS

SECOND-HAND TRADING REGULATED—In accordance with an order of the Ministry for Trade and Supply in East Berlin, second-hand trade in the GDR should protect itself more effectively against stolen goods. The regulation that second-hand goods from private persons can be accepted only in such quantities "that correspond, according to general experience, to the usual volume of personal property" was included in the General Conditions for the Purchase and Sale of Second-Hand Goods. The seller must affirm in writing that he himself is the owner of the item or has the right to dispose of it, that he has observed the customs and foreign-exchange provisions of the GDR, and that no third party has rights to the commodity. Employees at the purchase and sale sites who do not heed this can be fined up to 1,000 marks. Under some circumstances, private merchants can lose their permit to do business. In the future, fines can also be issued when the businesses accept items that are not allowed in second-hand trade. The catalog of disallowed consumer goods was expanded, now including, among other things, Meissen porcelain, to the extent that it is not "reduced in value," toys of an "antidemocratic and antihumanistic nature," as well as "all types of articles whose content or representation is directed against the preservation of the peace or is instigative or pornographic in nature." Second-hand trade in the GDR has developed rapidly since the end of the 1970's. A record turnover of more than 700 million marks is expected for this year. In 1976, the turnover was only 75 million marks. Altogether in the GDR, there are 766 special shops for purchases and sales and 930 technical shops that also deal in second-hand goods. [Text] [Bonn IWE WIRTSCHAFTSDIENST in German Vol 27 No 44, 5 Dec 86 p 3] 9746

EXCESSIVE STATE PROPERTY DAMAGE—High losses through violations of the law are cause for growing concern. The volume of infringements of rights in the national economy of the GDR and the resulting losses are causing increasing worries for the leadership in East Berlin. High officials have recently demanded emphatically that "greater efforts be made to avoid national economic losses and to protect social property." To be sure, the East Berlin leadership is not naming any figures but, in a recent speech to officials, Council of Ministers Chairman Willi Stoph left no doubt that "annually large losses to the national economy" arise just through fires, accidents and other damages. GDR regional newspapers have recently reported on a number of very grave accidents and cases of arson as well as on major fraud in enterprises. In its December issue, the journal DER SCHOEFFE published by the Ministry of Justice in East Berlin demanded "decisive efforts above all in management and

planning work to prevent losses to the national economy," especially through violations of the law. The justice magazine called it a crucial task "to intensify the existing control mechanism." More thought needs to go into "how a higher level of control and of its evaluation can be achieved in the future." In addition, the SCHOEFFE characterized it as essential "to mobilize the work collective to prevent national economic losses and to protect social property." [Text] [Bonn IWE WIRTSCHAFTSDIENST in German Vol 28 Nos 1/2, 9 Jan 87 pp 3-4] 9746

BIOTECHNOLOGY FOR FOOD PROCESSING--By 1990, the GDR wants to invest significant funds in the research, development and application of biotechnology in the area of the foodstuffs economy, reported Klaus Borkmann, deputy minister for district managed industry and the foodstuffs industry. He justified this by saying that the breadth of the introduced enzymes and processes in the foodstuffs industry of the GDR is inadequate in comparison with international high technologies. As weaknesses, he named enzyme applications and process development as well as the provision of the special equipment and measuring and control technology. Besides the industry research center for biotechnology, according to Borkmann, an engineering school for biotechnology and new gene and immune-technology laboratories at the universities as well as special research capacities in the area of the Academy of Sciences are to be built by 1990. [Text] [Bonn IWE WIRTSCHAFTSDIENST in German Vol 28 Nos 1/2, 9 Jan 87 pp 4-5] 9746

LOWER ECONOMIC PERFORMANCE--Economic growth in the GDR declined somewhat last year relative to 1985. According to data from East Berlin, produced national income increased by 4.3 percent, whereas 4.8 percent was named for 1985. The industrial production of goods in industry likewise increased by 4.3 percent. It was 4.5 percent in 1985. The net production of industry (production less material consumption and depreciation) grew by 8.5 percent compared with 9 percent in 1985. On this basis, labor productivity for industry increased by 8.8 percent (1985: 8.4 percent). Costs in industry were reduced by 1.7 percent. The reduction was 2.2 percent in 1985. Measured against the planning estimate for fiscal year 1986, the achieved results are varied. The planned increase of 4.4 percent in produced national income was just missed. In contrast, the increases in industrial goods production and net production in the sector of the industrial ministries were right on the plan. Labor productivity in industry increased more strongly than planned (8.1 percent). On the other hand, the planned 2.2 percent decline in prime costs was clearly not achieved. Higher than average rates of growth were attained in the "key technologies." Thus the production of personal and office computers increased by 148 percent over the previous year, monolithic-integrated circuits by 28 percent, optoelectronic semiconductor components by 20 percent and optical fiber cable by a factor of 3.5. [Text] [Bonn IWE WIRTSCHAFTSDIENST in German Vol 28 Nos 1/2, 9 Jan 87 p 1] 9746

LOCAL GAS DEPOSITS--Some 50 percent of the gas consumed in the GDR comes from local deposits. The most important of these deposits is located in the north-west of Altmark, near Salzwedel-Peckenhausen, more than 3,000 meters below the earth's surface. The first gas was struck there in 1968. Other minor deposits are located near Erkner, in the Niederlausitz near Wilhelm-Pieck Stadt Guben, between Drebkau and Cottbus, and north of Weisswasser near Doebern. Further deposits are in the so-called Thuringian basin between Bad Langensalza-Muehlhausen and Meterode-Muehlhausen and in the middle of the Eisenach-Gotha-Bad Langensalza triangle. [Text] [East Berlin DER MORGEN in German 31 Mar 87 p 7 AU] /9365

ADN/ENA COOPERATION--Berlin, 13 Apr ADN--The news agencies of the GDR and Ethiopia will expand cooperation further in the coming years. An agreement to this effect was signed on Monday by the directors general of ADN, Guenter Poetschke, and of ENA, Merid Bekele. During his GDR visit the ENA director general was received for a talk by the head of the Agitation Department of the SED Central Committee, Heinz Geggel. [Text] [East Berlin ADN International Service in German 1811 GMT 13 Apr 87 LD] /9365

HEALTH AGREEMENT WITH MOZAMBIQUE--Maputo, 1 Apr (ADN)--The Health Ministries of the GDR and the People's Republic of Mozambique have agreed to a further deepening of their cooperation. Dr Berndt Schirmer, GDR deputy minister of health, and his Mozambican counterpart, Dr Igrejas Campos, today signed a corresponding work plan for 1987-88 in Maputo. The document regulates the use of doctors from the GDR in Mozambique's hospitals and envisages the further development of cooperation in the area of occupational health as well as the deepening of the mutual exchange of knowledge in various other areas of the health service. The treatment of Mozambican citizens in GDR hospitals is also part of the agreement. [Excerpt] [East Berlin ADN International Service in German 1607 GMT 1 Apr 87 LD] /9365

CSO: 2300/267

BUDGET FOR 1987 ANALYZED

Bucharest REVISTA ECONOMICA in Romanian 7 Jan 87 pp 13-14

[Article by Gheorghe Valcu: "The 1987 State Budget as a Means of Speeding Up the Intensive Development of the National Economy"]

[Text] At the end of the past year the Grand National Assembly passed the State Budget of the Socialist Republic of Romania for 1987, which features the centralized state revenues and their appropriation for fulfilling the tasks and objectives envisaged in the uniform national plan of socioeconomic development of the country. The state budget was worked out with the decisive contribution of RCP Secretary General Comrade Nicolae Ceausescu, who established new and very important measures for mobilizing and better utilizing all the resources of our economy, and apportioning and channeling expenditures in such a way as to especially promote the intensive factors of development, implement a stringent regime of savings in all the sectors of activity, and more efficiently utilize the funds devoted to generally raising the living standard of all the people.

Through its composition and contents, the 1987 state budget ensures the financial resources required to continue a high rate of economic activities, resolutely implement the 13th party congress objectives and tasks concerning the intensive and harmonious development of the economy, raise economic efficiency in all the sectors of activity, increase the material and cultural wellbeing of the working people, and carry out balanced financial, monetary, and currency operations.

The state budget revenues and expenditures were decided in accordance with the priority objectives of the uniform national plan of socioeconomic development and the plan of development of the agriculture, food industry, forestry, and water management concernig, which calls for increasing labor productivity and lowering the consumption of raw and other materials, energy, and fuel, something that is reflected in an increased net income per 1,000 lei of fixed assets and a higher profitability. Here we must stress that the state budget reflects the positive effects of the rate of growth of the national income, which is higher than that of the social product, and of the growth of the net production in all the branches of the economy, which is more rapid than that of the overall production.

At the same time, the state budget incomes and expenditures were planned so as to reflect the consistent implementation of the new economic-financial mechanism and workers self-management, self-administration, and self-financing, and the fact that the activities of all economic units, in each sector, are based on the principle of a high profitability and efficiency. Along this line it is significant to point out that in 1987 all the enterprises and centrals are planned to show a profit, something that creates the necessary conditions for them to establish and increase their own self-financing funds and to fulfill their obligations toward the state.

The 1987 state budget is a balanced budget, with 379.3 billion lei envisaged for both incomes and expenditures. Note that the overall incomes are 17.1 percent higher than in 1986 and are derived, for the most part--almost 99 percent--from the socialist units. An important share of the state budget revenues is made up of income from the cash incomes of economic units in the form of payments from profits, social contributions, goods turnover tax, and tax on the use of state-owned land, which total 252.2 billion lei, a higher figure than in the past year.

The state budget expenditures, determined on the basis of financial norms and regulations, the implementation of a stringent regime of savings in all the sectors, and the outmost mobilization of resources, ensure financing for fulfilling the tasks and objectives of the national plan. Thus, the sum of 197.5 billion lei has been allocated to financing the national economy; a considerable part of that will be used to finance the implementation of the investment plan, which is designed to propel the Romanian economy to higher levels of development. Adding to that the own development funds of the economic units, it results that the financial basis for continuing the process of intensive development of the national economy is ensured.

In view of the fact that scientific research plays a particularly important role for the process of intensive and manysided development of the country, the 1987 budget envisages 2.1 billion lei for major research projects (to which will be added the important resources allocated out of the own funds of the economic units for projects involving scientific research, technological development, and expansion of technical progress).

The brilliant peace initiative of Comrade Nicolae Ceausescu, president of the Socialist Republic of Romania, on reducing arms and military troops, endorsed by the entire nation in the 23 November 1986 referendum, is shown in the 1987 state budget in the form of a 1,350 million lei reduction in defense expenditures.

Proceeding from the primary objective of the party-state policy of raising the material and cultural living standard of all the people, the 1987 state budget allocates 98.5 billion lei for education, health, culture and art, physical education and sports, children allowances, education aid, and state social security.

A separate chapter of the state shows local budgets with 24.9 billion lei revenues and 15.9 billion lei expenditures, something that emphasizes the important role played by the people's councils for developing production,

services, and all municipal, town, and commune administrative and urban activities. The local budgets will contribute over 8.7 billion lei to the fund of general development of the entire society.

We want to stress that all the activities of the 1987 state budget are based on the principle that all the incomes quoted in it constitute minimum limits, while the expenditures have been planned at maximum levels that may not be exceeded.

The adoption of the state budget by the Grand National Assembly and the allocation of its indexes under a State Council decree--according to ministries, and other central and local bodies--is followed by a stage of great importance for the complete implementation of the plan tasks, namely the distribution of the financial indexes among the centrals and enterprises, and within them among sections, workshops, laboratories, projects, teams, etc. The purpose of this action is to ensure that the financial tasks allocated to each unit are commensurate with the technical, material, human, and financial potential of each unit, and that indeed the financial indexes allocated serve to mobilize the collectives of enterprises, institutions, sections, workshops, and so forth to fully implement the plan provisions. That is why the distribution of the financial indexes is a great responsibility and must be carried out only on the basis of thorough analyses of the revenues and expenditures of each unit, based on the resolute implementation of the approved financial regulations, observance of the costs established per 1,000 lei of production-commodities, a more rapid rate of circulation of the funds, etc.

On the basis of the financial indexes allocated, each unit must immediately finalize its own budget of revenues and expenditures and divide it into quarters and months. However, the most important step is the establishment of the measures that must be taken to ensure the optimal fulfillment of the plan and budget tasks.

The following priority requirements emerge from the complex tasks and measures incumbent on all organizational bodies, units in the various sectors of activity, and specific branches:

--Basing all production activities on efficiency criteria, in keeping with the principles of the new economic-financial mechanism, and enhancing the profitability of all units, products, and activities;

--Completely fulfilling the itemized production plan in all its ranges and at a high technical and qualitative level, the net production plan, and the plan of commodities sales and revenues, substantially cutting production costs, especially material costs, and increasing labor productivity;

--Implementing the measures established to improve the organization and modernize the processes of production, and resolutely apply the financial regulations approved concerning stocks of raw and other materials, finished products, and circulating capital;

--Efficiently utilizing raw materials and energy, strictly observing consumption limits, and further reducing material and energy consumption;

--Fully and efficiently utilizing the existing production capacities and facilities, reducing specific investments and expenses for site work, strictly observing the time allotment for the completion of investment projects, and ensuring that they are put into production on schedule and with the approved parameters;

--Pledging funds within the limits and for the purposes envisaged in the plan and solely for expenses that are absolutely necessary for the production activities, and instituting a stringent regime of savings in all the sectors by preempting uneconomical or inopportune utilizations of material, cash, and manpower resources;

--Increasing the contribution of scientific research and technical progress to developing and accelerating the rate of updating, modernization, and improvement of production structures, raising the technical and quality level of products, reducing the consumption of and better utilizing raw and other materials, and speedily putting the new achievements of science and technology into production;

--Ensuring that each socialist unit fulfills all planned cash accumulations and obligations toward the budget through payments from profits, social contributions, goods turnover tax, and other payments envisaged by law, and that they secure and utilize their own funds according to the law;

--Implementing the provisions of the program on developing foreign trade and international economic cooperation, giving priority to export production, increasing economic efficiency in that area of activity, obtaining good prices in foreign markets, ensuring that the state's currency rights are collected on schedule, regularly, and according to contract terms, increasing the returns on export products, judiciously managing the currency funds allocated for imports and aligning them to plan provisions, diversifying marketing forms, and efficiently adapting production to foreign market requirements;

--Ensuring raw and other materials supplies strictly in accordance with the production fulfillment, eliminating and precluding the immobilization of resources, continuously increasing the turnover rate of circulating capital, and ensuring a permanent balance between income and payments;

--Tightening control over all billing operations concerning goods deliveries, orders, and services, ensuring that payment is speedily collected, eliminating unjustified delivery rejections, and collecting payment immediately upon receipt, so as to speed up billing procedures and ensure payment capability;

--Efficiently utilizing the units' own funds and budget allocated funds for social, cultural, administrative, and other purposes, paring down building maintenance, running, and repair costs, efficiently utilizing local technical resources, increasing the units' own revenues and self-financing for social, cultural, and other investments;

--Ensuring stringent and permanent financial control, particularly preventive control in all the socioeconomic areas with a view to strictly enforcing plan, contract, and financial discipline and better utilizing material, work, and cash resources, so that each leu can be used in accordance with the destination esestablished and with maximum socioeconomic efficiency.

In keeping with the budget law, important tasks are assigned to the executive committees (bureaus) of county people's councils and of Bucharest municipality for consolidating economic-financial self-management, self-administration, and self-financing; special emphasis will be placed on ensuring that all the activities of the administrative-territorial units in their jurisdiction are governed by economic principles, so that each local economic unit carry out profitable activities, yielding the largest possible returns, on developing industrial activities, services, and other revenue-producing economic activities, on better utilizing the plan and budget allocated material and cash resources for construction, for the maintenance and repair of roads and bridges, and for urban projects, education, health, culture and art, and social assistance.

The budget law attaches special importance to the financial-banking organizations, which are expected to become closely involved in the efficient unfolding of economic and financial processes throughout the economy and to provide stringent and permanent control in all the sectors of the economy, with a view to enhancing people's responsibility for judiciously managing the material and cash resources, closely observing the state laws and plan, contract, and financial discipline, and safeguarding and consolidating socialist property. The activities of the financial-banking organizations will have to be further improved and perfected in keeping with the requirements of an increasingly more efficient economic-financial mechanism. They must take resolute steps to monitor the implementation of the state budget, centralized financial plan, and other financial plans, and to make an active contribution to preventing and eliminating negative phenomena, waste, losses of all types, and superfluous stockpiling, helping the economic units to carry out smooth and efficient activities. In their turn, the economic units must focus on implementing the 1987 plan and state budget in the best conditions as of the very first days of the new year, so that all activities can proceed efficiently.

12782

CS0:2700/184

PLANS TO MODERNIZE PRODUCTION PROCESSES

Bucharest REVISTA ECONOMICA in Romanian 7 Jan 87 pp 17, 18, 24

[Article by Ion Bucur: "A Decisive Year for Fulfilling Programs on Organizing and Modernizing Production Processes"]

[Text] The past year--the first year of the eighth 5-year plan--was marked by the onset of a long-term action, unprecedented from the viewpoint of scope and range, and which elicited a great reaction from the masses of working people. Along the line of the party program provisions and of the 13th congress decisions designed to accentuate the intensive course and qualitative aspects of the development of the national economy, the program on improving the organization and modernization of production processes--inspired from the daring and constantly innovating thinking of our party secretary general, Comrade Nicolae Ceausescu, and from his untiring efforts to capitalize on all the means available to raise our country to higher levels of progress and civilization--unleashed a broad mobilization of the resources available in the economy, the achievements of scientific-technical progress as materialized by romanian research, and the initiative and revolutionary responsibility of working collectives in all the branches.

This program is designed to increase labor productivity at a rate that will double it by 1990 and to fulfill and exceed other economic indexes envisaged in the 5-year plan, namely the indexes concerning increases in the volume of production-commodities, marked growth of export and reduced imports, substantial reductions in material and energy consumption simultaneously with a better utilization of those resources, cuts in production costs and larger profits, and an increased overall economic efficiency.

Major Implications for the Process of Accentuating Intensive Development

We must particularly emphasize the decisive and exceptionally valuable contribution made by Comrade Nicolae Ceausescu to both establishing the objectives and guiding criteria of the program, and to actually hammering it out; moreover, the initial provisions were subsequently considerably improved thanks to repeated examination, together with managerial cadres and experts, of the measures suggested by ministries, industrial centrals, and other related units, as well as by over 130 representative enterprises, thanks to the specific guidelines issued on those occasions and on the occasion of many

working visits to counties and economic units, and to extensive consultations with the working people--another brilliant example of the implementation in practice of the principles of workers democracy. The guidelines and tasks formulated at the joint plenum of the National Council of Working People and the Supreme Council of Socioeconomic Development of May 1986, at the third congress of working people, at the June and December plenums of the RCP Central Committee and at the recent plenum of the National Council of Working People, as well as at meetings of the Political Executive Committee of the RCP Central Committee have sped up the rate of implementation of the measures established, whereby emphasis was put on those measures that can yield maximum effects in the shortest time and with the least financial and material expenditure.

A special organizational framework was especially established to provide guidance, coordination, support, and control for this action: a Central Commission for Improving the Organization and Modernization of Production Process was established at the level of the entire economy under the eminent leadership of Comrade Academician Dr. Engineer Elena Ceausescu, first deputy prime minister and chairman of the National Council of Science and Technology, who has repeatedly examined the programs of measures suggested by ministries, centrals, and many representative enterprises; commissions were established at the level of ministries, centrals, enterprises, and counties to deal with specific branches and areas.

The guiding criteria and recommendations of the party secretary general have been organized by the Council of Socioeconomic Organization in files according to ministries, centrals, and enterprises; these files contain over 650 measures of a particular importance, listed in stages, the implementation of which is monitored on a monthly basis. Three months ago, the State Council issued Decree No 318/1986, a regulatory document that provides the legal framework and continuity for two special programs of a national importance: 1) that on improving the organization and modernization of production processes, designed to ensure a better utilization of social labor, extensively promote technical progress, raise labor productivity and economic efficiency, increase national revenues, and thus the living standard of the working people; 2) that on improving the system of financing economic activities and economic-financial norms, designed to lead to maximum economic results and returns, strengthen self-management and self-administration, and promote the resolute implementation of the new economic-financial mechanism.

First Stage: Good Results, But Also Insufficiently Tapped Opportunities

Guided by the party bodies and councils of working people and having secured the participation of managerial cadres of various levels, experts, and many production workers, the support of institutes of scientific research, technical engineering, and design and universities, and the permanent contribution of regional offices of socioeconomic organization, the organization and modernization commissions especially formed in about 1,300 industrial enterprises worked out programs featuring over 75,500 measures whose implementation will greatly contribute to the fulfillment of the 5-year plan.

In order to amplify the results, various solutions were subsequently improved and exhibitions, meetings, exchanges of experience, and other means of popularizing advanced experiences were organized; some ministries compiled selected workbooks of measures, and REVISTA ECONOMICA devoted a special column to the action. All these initiatives made it easier for enterprises to adopt solutions devised by other related units.

Organization and modernization programs were also worked out in several construction, transportation, and other units. More than half of all the measures were scheduled for the first stage, i.e., for 1986. Their purpose was--aside from earlier finalizing various plan investment projects envisaged for expanding and modernizing production capacities, and eliminating bottlenecks in technological processes--to utilize as fully as possible the enterprises' own resources for better organizing production and labor, improving transfer flows and internal transportation, raising the level of mechanization and automation, updating machines, equipment, and installations particularly at the time of capital repairs, updating products and raising their technical and quality level, increasing the degree of processing of raw and other materials, efficiently utilizing energy, and implementing a stringent regime of savings in each enterprise.

Generally speaking these measures did not involve major investments of centralized funds, but were carried out with the enterprises' own means and resources, through the development of self-provided equipment, the aim being to attain maximum effects in minimum time. One of the phenomena significant for the mass adoption of the concept and principles of workers self-management and economic-financial self-administration was the broad participation of the working people in establishing, subsequently improving, and implementing the measures adopted in general meetings. The increased professional level of the workers also contributed to this manifestation of revolutionary consciousness, creativity, and will to excel through the responsible manner in which the managements of many units planned and organized, sometimes ahead of schedule, classes and other forms of training, advanced training, and multiple training, and the application of the technical knowledge thus acquired not only permitted increased productivity, but also prepared the groundwork for the more complex measures of the second stage of the program and paved the way for the assimilation of the achievements of the scientific-technical revolution.

As the party secretary general stressed at the recent plenum of the RCP Central committee, we have obtained good results in fulfilling the plan for the first year of the 5-year plan in all the areas. Thus, the increase in industrial production was 7 percent higher than in 1985, and can be said to have been achieved solely through increased labor productivity. It has been calculated that alone in the first 11 months of the year, thanks to the implementation of over 35,300 organization and modernization measures in enterprises, a relative personnel saving of over 94,000 was attained, 15 percent of the production was updated, and overall expenses were reduced by 10.5 billion lei (2/3 of that in material expenditures); all these savings covered 27 percent of the value of the additional production obtained, in addition to an almost 13 billion lei increase in profits. The balance sheet of the entire year, which is still to be calculated, will of course be considerably more rewarding.

The above results, obtained especially thanks to the more complete and efficient utilization of the existing material-technical and scientific-technological basis, once again confirms the correctness of our party's policy of simultaneous development of the production forces and of scientific research devoted to increasing their potential. In addition to channeling the capabilities and activities of specialized institutes and cadres toward resolving the problems of making production more efficient, a considerable contribution to the progress recorded was made by the design collectives--genuine nuclei of applied research--established in various enterprises. Together, those continuously growing forces constitute, amid the climate of great responsibility and effervescent initiative of the working people, a guarantee for the success of the action of modernization and of raising the technical and quality level of production.

However, the progress recorded does not completely reflect the opportunities available, the evaluation of which served as the basis for the programs, something that shows that not all the councils of working people have skilfully, methodically, and consistently wielded the factors decisive for the implementation of the programs. In some cases, the bodies of collective leadership and the specially formed commissions formally focused on targets normally featured as ongoing tasks in the current plans of technical-economic and political-organizational measures, and contented themselves with pursuing quantitative, rather than qualitative aspects. In such situations, measures more important for the modernization process were rescheduled for the next stage, something that deprived the enterprises of their contribution to the fulfillment of the 1986 plan tasks. Because of insufficient documentation and preparation, and unsatisfactory organization and monitoring according to schedules and responsible factors, some measures--many of them of a high economic efficiency--were not implemented well in time and others were delayed beyond schedule, while some of the measures that did get to the final stage did not produce the efficiency expected and thus, their contribution to production and labor productivity increases, increasing export deliveries, and reducing plan expenditures in comparison with the preceding year was, in some cases, insignificant. Not everyone acted resolutely, responsibly, and perseveringly to secure the material conditions--solving supply problems, balancing the capacities according to the phases of the technological flow, and cooperating with suppliers of parts and subassemblies--required for the application of technological modernization or for ensuring that updated processes run according to the technical-economic blueprints.

There have been unjustified delays in implementing one of the basic principles of the organization and modernization program, a principle repeatedly stressed by the party secretary general: modern technologies, mechanized systems, and methods of organization that have proven their value in some enterprises, must be shared and adopted by other units, too. The commissions of some ministries, centrals, and counties did not go any further beyond the initial stage of demonstrations, and did not take specific steps to introduce such achievements or to study and spread the experience of pilot units.

We must draw the due conclusions from the analysis of such cases and immediately take measures to make up for shortfalls and to establish a firm

discipline to ensure that each unit, county, central, and ministry fulfills the program and the plan tasks.

Priority Objectives for 1987

The provisions of the national uniform plan of socioeconomic development for the second year of the 5-year plan feature considerably more demanding tasks than in 1986, in keeping with the dynamics required to attain the levels envisaged for the end of the decade. This means that the program to improve the organization and modernization of production processes must also be implemented more rapidly.

According to the schedule worked out at the beginning of the action, this year we must implement over 23,000 measures, so that close to 85 percent of all the measures envisaged for the entire 5-year plan should materialize in the 1987-88 period. However, we must take into account several facts: this year we must also implement the measures left over from last year; additional measures have in the meantime been identified as necessary; of the measures due in 1988, all those for which the necessary conditions exist or can be soon provided must be put forward, so that almost the entire program should be completed next year, and a sound foundation should be laid for fulfilling the plan indexes for this year and for the entire 5-year plan. Consequently, even before the general meetings of working people, we must reexamine our deadlines on the basis of all the information we can muster (material and financial resources, current situation and technological trends at a world level, suppliers, cooperation and domestic customers, terms of export contracts, marketing studies, novelties and requirements emerging in the production of other enterprises, latest results of scientific research and technical engineering, etc.).

In establishing our priorities we must be resolutely and unabatedly guided by the valuable recommendation that Comrade Nicolae Ceausescu made at the December plenum of the party Central Committee, namely that, in view of the large number of projects featured in the modernization programs, "we must select the most important among them, and not become stranded among thousands and thousands of more or less important measures. Undoubtedly each one of these measures must be pursued and implemented; but we must understand that we must not scatter our forces, or come and report that we have dealt with hundreds of thousands of measures from one program or another before we have solved the basic problems. And the basic problems, in each area, are those concerning the modernization of installations and technologies, the scientific organization of labor in all the sectors of activity, the reduction, on this basis, of material and energy consumptions, and the marked growth of labor productivity."

Among the most important measures due both to their immediate effects and the fact that they create the conditions for basing the production processes upon new and more efficient foundations, a primary place is assigned--as envisaged by the 13th congress directives--to those concerning advanced mechanization, complex automation, and utilization of robots and computers, strictly in keeping with the party secretary general's guideline: "We must employ automation and robots wherever they can help raise the technical level and

productivity, thus verifying the correctness of and the need to put them into production." The beginnings made last year must be extensively developed. For that purpose, the national plan and the state budget for 1987 envisage that an important share of the investment funds allocated to industry should be used for the modernization of production processes. The ministries and centrals that have approved the programs of measures of enterprises are obligated to channel funds primarily toward that type of project, which can be installed in the existing capacities without requiring new buildings. The enterprises must be helped in the sense that the necessary blueprints should be designed, checked, and approved within the shortest possible time, so that work can begin on the respective projects as of the first quarter of the year. At the same time, the collective managements of the units must better organize the production, supplies, cooperation, and so forth that can guarantee the intensive and extensive utilization of the existing production capacities. Also, the automated equipment and installations, robots, etc. acquired must be fed partially finished parts from other stages of the technological flow without interruption, according to their capacity, and the parts and subassemblies they manufacture must be then conveyed further without bottlenecks. The cooperation of the research and education specialists who contributed to the development of the modernization solutions must be secured to deal with the difficulties that may appear in this process, just as the installation of automated control systems may require the help of departmental or regional computer centers. However, before appealing for outside help, everything possible must be done to utilize the enterprise's own creative potential.

The large number of computer units (centers, stations, offices) currently working at industrial centrals and at many enterprises, the important volume of equipment they have, and the number and professional training of their specialists impart a new scope to the utilization of computers for research, design, technological process control, etc., so that a far greater efficiency can be expected in the area of data processing.

In order to produce robots and common-type means of automation, and eventually special equipment, too, the Ministry of Electronics and Electrical Engineering must designate units that should specialize in this area; one should also consider the formula of research and production enterprises whose organizational structure should help shorten the design-execution cycle.

We must not for a moment forget that these measures must be implemented in a complex concept, simultaneously pursuing increased productivity, reduced consumption and costs, and a higher technical and quality level. We must put special emphasis on the last aspect, because fast progress in that respect is decisive for enhancing the competitiveness of our export products in foreign markets.

A close mutual relationship exists between a better labor organization and modernization of production processes on the one hand, and the efficient implementation of the overall contract system on the other hand, because creating conditions for exceeding the plan tasks, and thus for increasing the incomes of the working people, provides an incentive for their participation and for innovative ideas. Consequently, as soon as the planned parameters of

the measures have been attained, the mutual pledges featured in the overall contracts must be adjusted accordingly; at the same time, proposals made by the working collectives on further improving the production processes must be taken into consideration and implemented.

The year 1987 must also mark great strides in sharing advanced experiences, that being a forceful factor of technical and organizational progress. One can state that so far not all the ministry and county commissions have resolutely acted--after the exhibitions and other events organized in the first few months--to expand the application of modern technologies, mechanized systems, and methods of organization in similar enterprises; only a small number of economic ministries have compiled selected workbooks featuring the most representative measures shared. In this situation, solutions have often been transferred directly from one enterprise to another through more or less accidentally gained information. We believe that everyone must clearly understand that such transfers must acquire an organized and permanent character, and that the results of recently completed research projects must be added to them in the process. We must radically improve the organization of symposiums and exchanges of experience, so that each one of them should yield specific results and efficiently help spread positive experiences. Similarly, county and ministry commissions must more intensively utilize the experience of pilot units at both a regional and in-branch level, and must accordingly establish and organize new enterprises selected according to the criteria of the results attained to date, which should become the promoters of everything that is progressive in the area of organization and modernization.

At the 20 December 1986 meeting of the Political Executive Committee of the RCP Central Committee Comrade Nicolae Ceausescu requested all the ministries, centrals, and enterprises to take resolute measures to fulfill the plan tasks for 1987--for which the material-technical, energy, and all other necessary resources are at hand--and, within the framework of these measures, to pay the greatest attention to the problems of quality and of raising the technical and qualitative level of products.

The optimal and efficient fulfillment of the programs on improving the organization and modernization of production processes must make a decisive contribution to implementing those objectives and to the socioeconomic progress of our socialist fatherland.

12782

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REGULATIONS FOR ADMISSION TO NCO SECONDARY SCHOOLS

Sofia SERZHANT in Bulgarian No 3, 1987 pp 27, 28

[Regulation Governing Admission of Students to NCO Secondary Military Schools in the 1987-1988 Academic Year]

[Text] 1. Accepted as applicants to the NCO secondary military schools are young men who meet the following conditions:

Have a correct political orientation;

Are Bulgarian citizens;

Are fond of military service and wish to make a career of it;

Are active members of the Komsomol;

Are physically strong;

Are not married;

Have been recommended by the unit commander (for reenlisted personnel);

Do not have a criminal record and are not under indictment or investigation;

Have completed 8th grade, the first degree of the ESPU [unified secondary vocational school] or the 11th grade;

Applicants who have completed their 8th grade education are not to be over the age of 17, while those who have completed the first degree of the ESPU or have a complete secondary education are not to be over 21. Age is calculated as of 15 September 1987;

Have exemplary conduct.

2. The period of instruction in the NCO military schools is:

a) At the G. Izmirliiev NCO Secondary Military School [SSVU] in Gorna Ortyakhovitsa it is 2 years for young men who have completed the first stage

of the ESPU (10th grade) and those who completed their secondary education, draftees and reenlisted personnel from the BNA [Bulgarian People's Army]; 3 and 4 years for young men who have completed 8th grade;

b) The NCO Secondary Military Artillery School [SSVAU] under the G. Dimitrov VNVAU [Higher People's Military Artillery School] in Shumen requires 2 years for young men who have completed the first degree of the ESPU (10th grade) and for those who have completed their secondary education, for draftees and reenlisted personnel of the BNA; 4 years for young men who have completed 8th grade;

c) The NCO Secondary Air Force School [SSVVU] under the G. Benkovski VNVVU [Higher People's Air Force School] in Dolna Mitropoliya: 4 years for young men with a completed 8th grade;

d) The Anton Ivanov Warrant Officer ["Michman"] Secondary Naval School in Varna: 2 years for young men with a complete secondary education and who are draftees or reenlisted personnel from the Navy ships;

e) The Maestro G. Atanasov NCO Secondary Military Music School [SSVMU] in Sofia: 4 years for young men with a complete 8th grade.

3. Applicant students are to submit through the people's councils or military directorates to the chief of the NCO secondary military school to which they are applying (or to the chief of the higher military school with which the NCO school is affiliated) the following documents:

An application for admission;

A competitive card on which the student applicant ranks the desired specialties in the order in which he wishes to be classified;

An autobiography;

A diploma showing a complete secondary education, a certificate for the completed first degree of the ESPU (10th grade) or 8th grade (this can be a notarized copy);

Birth certificate;

Recommendation from the people's council;

Certificate showing no criminal record;

A pedagogical recommendation from the school;

A declaration from the student applicant that he promises after completing the school to serve at least 10 years in the BNA (BGA [Bulgarian Civil Aviation]). For applicants with a basic education (8th grade) the declaration is to be signed by the parents and if there are no parents by guardians;

A document showing the right to preferential placement (if such exists).

The documents for reenlisted personnel approved to apply to the NCO military school, along with the medical record, copies of the service record showing imposed penalties and granted commendations and a service recommendation are to be forwarded by the commanders to the military directorates from which the young men have been sent to service.

4. The dates for submitting the documents to the military directorates are as follows:

Prior to 4 June for those who have completed their secondary education in 1987 and for reenlisted personnel; prior to 16 July, for all who have completed their education in 1987.

5. Applicants from the 8th grade for the G. Izmirliiev SSVU, the SSVAU in Shumen and the SSVVU in Dolna Mitropoliya are to take a written competitive exam in mathematics on the basis of the materials studied up to the 8th grade, inclusively.

Applicants for the SSVMU are to take a competitive exam in solfege and a special subject including wind instrument (not including flute, oboe and bassoon) and percussion instrument according to the program for admission to secondary music schools.

6. The student applicants are to take a thorough medical examination and a testing of psychophysiological qualities.

7. Each applicant has the right to apply for all specialties at two NCO military schools, one in the first group and one in the second. In the first group of NCO schools are the Dolna Mitropoliya SSVVU, the Shumen SSVAU and the Anton Ivanov MSVMU in Varna; in the second group are the G. Izmirliiev SSVU in Gorna Oryakhovitsa and the Maestro G. Atanasov SSVMU in Sofia.

The young men who apply to two NCO schools are to submit their documents to the first one, in indicating in the documents also the second to which they are applying; to the second they submit an application and a competitive card on which they indicate to what other NCO military school they have submitted the remaining documents.

8. The time for the reporting of the applicants and for the holding of the exams is as follows:

a) For the first group of NCO secondary military schools:

The reporting of applicants is prior to 1400 hours on 18 August 1987;

The testing of psychophysiological qualities of the applicants, the medical exam and the written test in mathematics for the applicants of the 8th grade is according to the schedule of the appropriate school.

The admission commissions for the first group of schools are to complete their work no later than 24 August 1987.

b) For the second group of NCO secondary military schools:

Reporting of the applicants prior to 0800 hours on 2 September 1987;

The testing of psychophysiological qualities of the applicants, medical examination and written test in mathematics for the G. Izmirliiev SSVU, the competitive exam in solfege and the special subject at the Maestro Atanasov SSVMU according to the schedule of the appropriate school.

The admission commissions for the second group of schools are to complete their work no later than 6 September 1987.

The results of the written mathematics exam are to be announced immediately after the review of the written works. The announced grades are final. There is to be no repeat review and regrading.

Student applicants are to report for the exam with their passport (Komsomol booklet).

9. Student applicants in specialties with a 2-year period of instruction are to take a competitive exam and are ranked according to the number of points which is formed by totaling the following grades:

a) For those who have completed 11th grade: the overall grade from the diploma for a completed education, the grade from the diploma for Bulgarian and mathematics;

b) For those who completed the first stage of the ESPU the average arithmetic grade of the 9th and 10th grade for Bulgarian and physics.

For the 3- and 4-year course of instruction, the number of points is formed as for those who have completed the 11th grade, in adding a doubled grade from the competitive mathematics exam.

Applicants for the Maestro G. Atanasov SSVMU are to be ranked according to the number of points formed by:

The overall grade from the certificate for a completed 8th grade;

The doubled grade from the competitive exam in solfege;

The tripled grade from the special subject.

10. The admission commissions rank the student applicants on the basis of the obtained number of points and any right to preferential admission which they have according to the order of the specialties given by the student applicants.

11. The admitted students are to be notified in writing by the appropriate NCO secondary military school. They are obliged to report to the school prior to 1400 hours on 14 September 1987 while those admitted to the Anton Ivanov

MSVMU (not considering reenlisted personnel) prior to 1400 hours on 27 August 1987.

If the admitted students do not report at the stipulated time to the appropriate SSVU, their place is filled by applicants from the reserve according to the order of their ranking.

12. In admission of students to the SSVU, preferential admission is granted to the following:

a) Sons of active fighters against fascism and capitalism and servicemen killed in carrying out their service duty. These are to compete amongst themselves for 10 percent of the places;

b) Sons of servicemen of the BNA and those reserve servicemen who have served at least 15 years of regular service in the BNA; these are to compete for 15 percent of the places;

c) Sons of employees of the Balkan BGA (pilots and technicians) and from the Central Directorate of the Ministry of Transport who have at least 10 years of regular service in these departments; they are to compete for 10 percent of the places in the appropriate specialty for the Dolna Mitropoliya SSVU;

d) Candidates from the border districts of Southern Bulgaria are to compete for 15 percent of the places.

Places set aside for applicants with preferential admission and not filled by them in the course of the ranking are to be filled according to the order of the number of points of the applicants who do not have preferential admission;

e) Admitted outside of the competition are young men (if they meet the remaining requirements) who have ranked in the republic mathematics contests.

Preferential admission is granted to the Maestro G. Antanasov SSVU under Point 12, "a," "b" and "e" with other conditions being equal.

13. Travel and meals are at the expense of the applicants and lodging is organized for them by the NCO secondary military schools.

Reenlisted applicants travel under military travel documents and may sign up for food upon presentation of the food certificate.

14. Those completing the NCO secondary schools are considered to have a civilian secondary (specialized secondary) education, to have served their military service and the qualification in accord with the curriculum.

15. The documents of unadmitted applicants, with the exception of those in the reserve, are to be returned to the military directorates within a 3-day period after the announcement of the results.

16. For the applicants of the Maestro G. Atanasov SSVMU, from 25 August through 1 September 1987, a preparatory course is to be organized according to a program drawn up by the school.

This regulation is issued on the basis of Chapter 3 of the Regulation Governing SSVU in the Bulgarian People's Army.

10272

CSO: 2200/81

ECONOMIC USE OF MILITARY WEAPONS, EQUIPMENT URGED

East Berlin MILITAERTECHNIK in German No 1 1987 (signed to press 10 Nov 86) pp 3-5

[Article by Col Dr L Lehmann]

[Text] The 14th Conference of Delegates of the Party Organizations of the SED in the NVA and the border troops of the GDR confirmed once again "the familiar challenge that a good member of the military must be at the same time a good economist." (1) With this observation, the conference called attention to the importance of military economic thinking and action in this area of military activity for the fulfillment of the class mandate.

1. Political-ideological Work: A Condition for the Unfolding of Military Economic Thinking and Action

As everywhere, in the maintenance and repair of military technology, increasing demands are being placed on the military economic thinking and action on the part of the members of the armed forces. If "more effective procedures [are to be implemented] in the care, maintenance and repair of combat technology, weapons and equipment...", as called for by the 14th Conference of Delegates, (2) work with the human element must also be intensified and further developed. (3)

In military economic thinking and action, the ability of members of the army and civilian employees is expressed to recognize military economic requirements as well as the ability and preparedness to consciously take these requirements into consideration in military activities. They thereby help to implement the military economic policy of the Party within the armed forces. This forms the essential basis for the utilization of economic laws in the military area of the military economic reproduction process.

Military economic thinking and action specifically includes the utilization of all intensification factors to increase combat effectiveness and combat readiness. This applies to both science and technology as a overriding factor as well as to a high degree of economy in the working faculties, in the means of defense and consumable goods, as well in financial resources. Further aspects are the utilization of procedures and methods of economic bases for managerial decisions, including economic aspects in the conduct of socialist

competition and the motivation of members of the armed forces. Additional factors include a multitude of instruments and methods for the determination of costs and effectiveness as well as of planning and those that serve the rational structuring of the interrelationships between the military forces and the national economy. As described in more recent military economic literature, military economic thinking and action is "a degree of consciousness in which the requirements of the economic laws that impact on military activity in their reciprocal interaction with other social laws, above all those of warfare and of armed combat, are reflected completely and correctly as far as it is possible in the consciousness of members of the army and utilized consciously and in a planned way in their actions.(4)

From this it is clear: military economic thinking and action form a dialectical unity of the objective and the subjective. It is linked to the activity of members of the armed forces. Its effectiveness depends on the way in which members of the army and civilian employees take into consideration the corresponding objective relations and needs. In the overhauling of military technology, such regular connections are expressed as for example between the use-related wear of technology and the expenditures of the working faculties, consumable goods, operational machine hours, diagnostic devices and other fixed assets. They are reflected also in the dependencies that exist between the general technical and technological niveau as well as in the quality of available consumable goods, machines and equipment and the work of care, maintenance and repair which is carried out, including the planning and organization of these tasks on the one hand and the level of expenditures for these processes.

These objective dependencies must be recognized and taken into consideration by members of the armed forces. Only then will the "social causes set into motion [by them] have predominantly and in ever increasing measure also the effects that they desire," as Friedrich Engels put it.(5)

In the maintenance and overhauling of technology, the sought-after military economic effects consist in the final analysis of a decrease in expenditures. Only in this way will it be possible to "fulfill [the increasing demands which the ensuring of the mandated KTE places in the on-going modernization of technology] with the same, and in part even reduced, forces and resources, usually in shorter time periods, (6) as was called for by the 14th Conference of Delegates. This once again is an objective pre-requisite for the maintenance of the necessary ratio between the military service, combat and political training and safeguarding measures, in particular of specialized technological safeguarding. From this it follows that military economic thinking and action itself is objectively necessary for ensuring good combat capability and combat readiness on the part of the armed forces.

This type of awareness is not formed spontaneously, nor does it come about of its own accord. Today more than ever before, military economic thinking and action is based on scientific knowledge. It presupposes military mastery and is an expression of this mastery. The needed knowledge, impulses, attitudes and positions must be transmitted and shaped. In order to think and to act in a military economic way, Party resolutions must be thoroughly studied, their theoretical content made visible and their findings processed in a creative

way. This consciousness is based on a knowledge of military theory, military technology and military economy that is ready for application as well as on the generalized experiences of the best in the effective utilization of defense resources. In all this there is also always a need for the ability to recognize what is new and of the resources to implement this. Also with regard to the unfolding of military economic modes of thought and behavior in the maintenance and overhauling of technology, the observation of the 14th Conference of Delegates is valid here, according to which "forward-looking changes...which presuppose the willingness and ability to question even those practices that we have grown fond of, to overcome any kind of departmentalized thinking, to put aside old patterns of thought and to relinquish the not infrequently observed reservations many hold with regard to preparing the implementation of new technological means." (7) The development of these abilities, insights and attitudes requires well-targeted political-ideological work. "It produces effects wherever it is linked closely to the concrete military political situation in the world today, with what is happening in the GDR, with the day-to-day tasks of the troops, staffs and equipment, with combat training and the struggle to consolidate military discipline, where it spurs on new achievements."

2. Designing the Contents of Ideological Work

As multi-faceted as military economic thinking and action is, political-ideological work that is directed towards its further development must also be correspondingly many-sided. It is closely linked to the deepening of fundamental socialist convictions, builds on these and must correspond to the concrete situation in the area of responsibility. However, at the same time certain general, overlapping kinds of effects are taking shape.

First, the insight must be strengthened according to which military economic thinking and action are necessary for all members of the army and civilian employees who are involved with the maintenance and overhauling of combat technology, weaponry and equipment. They all utilize defense resources: working faculties, lubricants, testing instruments, tools and other material resources. Their actions determine the degree of effectiveness with which available forces and resources are utilized. Factors influencing this are the quality of work, the careful and economical use of these resources as well as the full utilization of service times and work hours. But equally important factors include the quality of storage management, the planning and organization of these processes, including the development and implementation of optimal maintenance and overhaul technologies and of norms which reflect actual expenditures as well as the real demands placed on these work tasks.

Secondly, it must be made clear to all members of the armed forces that the comprehensive intensification that has been called for in all aspects of political and military life by the 11th Party Congress of the SED for the national economy as a whole and by the 14th Conference of Delegates in all areas of political and military life forms a turning point in military economic thought and action. It poses much higher standards and greater challenges than in the past periods of the development of the socialist armed forces. The 14th Conference of Delegates expressly points this out: "With what has been achieved to date, important points of departure have been

created for developing the intensification with the greatest possible military benefits in a truly comprehensive and lasting way."(8) This also holds true for the greater degree of economy in maintenance procedures. If in the past, military economic thinking and actions were directed above all at simple economizing, at the utilization of the reserves of the so-called first level, today it is a question above all of repeatable lowering of expenditures, of general improvements in the cost-benefit ratio. This further necessitates new and complex solutions. They must comprise all components of maintenance and repair of technology and all elements of defense resources. This makes it necessary to reorient our thinking and presupposes far-reaching analyses. Only in this way can future challenges be met in a comprehensive way and the required KTE ensured. Only in this way can the contradiction between the higher maintenance and repair costs of new technology and the usually falling service time funds be countered, which results especially from the reduction of troop strength.

Third, evidence should be presented which demonstrates that resources must be used to their fullest extent and more effectively for the intensification of maintenance and repair. This involves, among other things, introducing new management means as well as modern instruments for testing and analysis, as well as further automating these processes. Improved technologies must be introduced in an obligatory way, which make possible a high degree of labor intensity as well as the economical use of materials. Maintenance and repair measures must be ascertained and established which correspond to the altered parameters of technology, to improved work instruments and to consumable goods, as well as to the raised level of qualifications of the members of the armed forces.

It is also necessary to further develop the characteristics of the social character of work in the armed forces. At the heart of this is the unfolding of the initiative and creativity of members of the army and of civilian employees within the framework of socialist competition and of the actions of the innovators movement.

A further factor is to increase the systematic nature of the processes of resource formation and utilization as well as the scientific nature of labor and to fully utilize all avenues of motivation. However, the implementation of utilization principles, which prevent unjustified wear and reduce the scope of maintenance, also has an influence on the effectiveness of corresponding processes. The appropriate use of trainers and simulators in the place of complicated combat and command technologies in training is of increasing importance. Once again, this confirms that intensification includes all activities, measures and instruments which distinctly increase the effectiveness of the individual types of military activity and thereby are directed at improving the degree of effectiveness of defense resources in overall terms. It is a question of the complex and comprehensive exploitation of all intensification factors. Intensification does not exhaust itself simply in the introduction of electronic computer technology, in particular office, personal or desktop computers. Modern computer and communication technologies are of course of great importance. In many areas, they make it possible in the first place to carry out the comprehensive analysis activity that is necessary for intensification and also enable managerial decisions to

be made based on military economic principles. As we know, by means of these technologies in a very short time and with little manpower costs, actual expenditures can be compiled, cost-benefit calculations carried out, trends that are dependent on time and on utilization can be identified and differences in performance and expenditures between various facilities, troop units or administrative units can be detected. These technologies permit us to extrapolate corresponding evidence concerning substantiated norms for utilization and expenditures, optimizing operational and utilization planning as well as procurement and warehousing processes, and to undertake substantiated performance evaluations. Not a few of the activities directed at the military economic qualification of command, organization and implementation of maintenance procedures have only become possible through the advent of modern management technologies.

The intensification effects that are achieved by means of this technology depend, however, on the ability of members of the armed forces to implement this technology in a suitable way and to utilize it as effectively as possible. Creating the pre-requisites and conditions for this—especially developing the necessary behavior and attitudes—is an essential task of political-ideological work, directed at the unfolding of military economic modes of thought and conduct.

Fourth, the growing importance of military economic thought and action must be brought to the attention of the population as a whole and, with regard to maintenance and repair, in a comprehensive way to all members of the armed forces. This works in at least three different ways. By bringing about a higher degree of effectiveness of defense resources, military economic thinking and action creates better materials and manpower as well as the financial pre-requisites for the fulfillment of the class mandate to the armed forces. With the development of the features of the socialist character of labor, more favorable socio-economic conditions are created for this as well.

The demands that the armed forces make on the economy are optimized. This helps to create more favorable material pre-conditions for the fulfillment of the primary task in its unity of economic and social policy and serves the complete development of intensive, expanded reproduction. This optimization applies in the maintenance of technology to the provision of spare parts and other consumable goods, to valuable fixed assets and to repair services which must be performed within the economy on behalf of the armed forces.

Military economic thinking and action is, however, of great importance not only under garrison conditions, in combat training or in safeguarding work during peace time. In a possible time of tension, the contradiction between growing military economic requirements on the one hand and the worsening conditions for their satisfaction on the other hand can unfold. Military economic thought and action would work against this. Stressing its importance therefore means making members of the army and civilian employees aware of the influence that it has on the securing of a high degree of economy in the armed forces.

The funds used for defense resources are part of the surplus product produced by the working population in material production. For this reason, military

economic thought and action is always an expression of respect for the achievements of the working population.

All participating forces must be brought into the political ideological work for the development of military economic patterns of thought and behavior: members of the army and civilian employees, subordinates and superiors alike. In the long run, it must be organized by commanders, political organs, organizations of the Party, the FDJ and of the trade unions. But it must also be effectively used on down days, periods of preparation of technology for a different utilization period, engineering preparations for combat training and combat service. Only in this unity and with the exploitation of all forms and methods of this work will it be possible "to penetrate more deeply in a theoretical way into the problem complex of comprehensive intensification as well as to deal simultaneously with practical questions." (9)

Ideological-theoretical work is, however, of special importance. It should be carried out in all command organs and by all management personnel, as well as by organizations of the Party, the FDJ and the trade unions in a goal-oriented way. Its results impact on the effectiveness of propaganda and agitation. This is also true of cultural-political work, which helps us to address the understanding and emotions to the same extent.

This ideological-theoretical work fulfills its function in the development of military-economic patterns of thought and behavior on the part of members of the armed forces when it helps us to penetrate deeply into the economic strategy of the Party and into the political economy and to understand essential findings of the Marxist-Leninist military economy. It should determine more effective ways for the implementation especially of Party resolutions and military command decisions which are directed at comprehensive intensification. One aspect of this work is the establishment of intensification criteria for major processes of maintenance and repair, as well as of focal points for the conduct of socialist competition.

Here, too, this fact is again confirmed: political-ideological work does justice to its function in the development of military economic modes of thought and behavior—in a general way and with regard to all types of military activity—when it possesses a strong world-view content and a strong orientation to military practice is ensured, as called for by the 14th Conference of Delegates. (10)

FOOTNOTES

1. Report to the 14th Conference of Delegates of the Party Organizations of the SED in the NVA and the Border Troops of the GDR. In: PARTEIARBEITER, Sonderheft, Feb. 86 p 28.
2. Report, p 26.
3. H. Kessler: "We Are Doing Everything to Keep the Peace: in NEUES DEUTSCHLAND, 19 Apr 86.

4. Collective of Authors: OEKONOMIE UND LANDESVERTEIDIGUNG IN UNSERER ZEIT, Berlin 1985, p 112.
5. F. Engels: "Herrn Eugen Duhrings Umwälzung der Wissenschaft (Anti-Duehrung) in: MARX/ENGELS, WERKE, Vol. 20 p 264.
6. Report, p 12.
7. Report, p. 28.
8. E. Hampf: "We Serve Peace, Socialism, the Welfare of the People" in: MILITAERWESEN H. 6 1986 p 12.
9. M. Volland: "The 11th Party Congress Determines Our Line of March for the Coming Years" in: MILITAERWESEN h. 7/1986, p 9.
10. Report, p 40.

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INTERNAL AFFAIRS MINISTRY USES COMPUTERS INEFFICIENTLY

Sofia NARODEN STRAZH in Bulgarian 11 Feb 87 p 1

[Report from NARODEN STRAZH's "own information" on plenum of Ministry of Internal Affairs BCP Rayon Committee: "Party Responsibility for Future of Computerization"]

[Text] On 6 February the MVR [Ministry of Internal Affairs] BCP Rayon Committee conducted a plenum devoted to the introduction of computer technology into the operational and administrative activity of the units. Participants in its proceedings were Velko Palin, head of the Social and National Security Department of the BCP Central Committee; Lazar Lazarov, secretary of the BCP City Committee; and deputy ministers, responsible party workers, and MVR leaders and officials. First Secretary of the MVR BCP Rayon Committee Nikola Lalchev presided at the plenum.

The report delivered by Rayon Committee Candidate Member Svetoslav Vladov emphasized that the introduction of computer technology now is one of the most important political goals of ministry communists. The party organizations and groups in every unit must make their contribution to its accomplishment.

Automated information systems and personal computers are already an indispensable component in many sectors of operational and administrative activity. The progress and acceleration of this process depend a great deal on the efficiency of the specific party ways and means of furthering it in all aspects. That is why more and more frequently electronization problems are a topic of consideration at meetings of party organizations and groups and in the personal reports of communists. They introduce new elements into mentorship, into socialist competition, into propaganda and explanatory work.

Nor does the detailed analysis in the report overlook the multitude of unsolved problems in this area. Remote information processing is poorly developed, which hampers the use of automated systems in okrug and rayon administrations. A certain lack of organization is evident in the supply of microcomputers and therefore a considerable portion of them at present remain idle. There are many difficulties in the maintenance of equipment. The solution of these problems must become an inabrogable concern of all party organizations.

The statements that were made were frank and critical.

BCP Rayon Committee Member Nikola Cherkezov directed attention to the fact that some operational personnel are not familiar with the information bank resources and therefore are not habituated to taking systematic advantage of them.

The Rayon Committee is conducting a second plenum in less than half a year devoted to scientific and technical progress within the MVR, recalled Dimitur Manov, RKRK [not further identified] member. Regardless of what the DNM [State People's Militia] PK [Party Committee] has done, there are many potential reserves for effective party-political work in the field of computerization. Analysis of the shortcomings in the introduction of computer technology into NM [People's Militia] activity proves the necessity of organized restructuring with automated systems in the hands of the user himself, which accordingly will raise his responsibility as well.

Ivan Ivanov, RKRK member, spoke about the urgent need of more purposeful and thoroughgoing information processing. A great deal of the operational worker's working time will be saved in this way.

Deputy Chief of MVR SGU [Sofia City Administration] Nikolay Marinov stressed the usefulness of comprehensive information backup of the units. Electronics must not, however, do this simultaneously with traditional methods, but must replace them, thus freeing human resources and cutting down paperwork. Lastly, Communist Marinov told of the SGU collective's desire that the unit become the basis for the employment of electronization.

In his statement Chief of the G. Dimitrov VSSh [Higher Special School] took up the employment of electronics in the educational process. Although 56 personal computers have been purchased and three computer classes set up, what has been achieved is far from the requirements for the effective instruction of future MVR officials.

Deputy Chief of MVR TsUPO [Tsentralno Upravlenie na Protivopozharna Okhrana; Central Administration of Fire Protection] Todor Shopov told about experience and problems in the introduction of automated fire protection systems. Unfortunately, the party organizations have not always actively furthered this process and at scattered periods have even held aloof from it. A change in attitude towards electronization is needed, for in this area we have already fallen behind other socialist countries.

Angel Stoychev talked about the necessity of introducing hard- and software solutions for the protection of computer-processed information.

Vesel Pendichev, secretary of the DKMS [Dimitrov Communist Youth Union] Dzerzhinskiy RK, considered the basic ways of youth participation in electronization: the TNTM [Movement for Youth Technical and Scientific Creativity] and the specialized computer clubs. The six professional competitions are useful (in 1986 86 young specialists participated in them). Twenty of the studies at the last TNTM review were on a computer or an automated-information-system topic. But there are great potential reserves here that can be realized by entrusting them with more-specific Komsomol tasks with more immediate monitoring by Komsomol committees.

The pioneering stage of computerization in the MVR is past, but it is only one step towards the desired high level, Secretary of the BCP Rayon Committee Stoyan Dimov pointed out. In a spirit of self-criticism we must confess that this question has not held the place due it in the work of most party organizations. There are already sufficient knowledgeable and capable communists and their duty is to surmount the discrepancy between what technology offers and what use we make of it.

Comrade Velko Palin in his statement outlined the strategic significance of the question under discussion by the plenum. The report and the statements give a true picture of the computerization process within the MVR. The plenum would gain, however, if the party's job in solving the problems were more concretely outlined in them. The exchange of experience with other departments, for example, with the Ministry of National Defense, would be useful.

In conclusion, the plenum adopted specific resolutions regarding the question under consideration.

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TURKEY CIVIL DEFENSE SYSTEM DESCRIBED

Sofia GRAZHDANSKA OTBRANA in Bulgarian No 12, 1986 pp 35, 36

[Article by Capt 1st Rank V. Burlyaev: "Turkey's Civil Defense--Readers' Question, 'How Is Turkish Civil Defense Organized?'--Editors' Answer"]

[Text] Turkey's military-political leadership believes that measures involving the organization and improvement of civil defense (CD) are an inseparable part of overall military preparations. Under existing legislation, CD is defined as the totality of preplanned defense and rescue measures that are aimed at remedying the consequences of the use of nuclear weapons and other means of mass destruction, at guaranteeing the protection and survival of the population, as well as at preparing military-industrial and other installations for steady operation in an emergency situation.

The general direction of civil defense is entrusted to the Ministry of Internal Affairs, and the immediate direction to the Civil Defense Administration, which is part thereof. Basic missions are the creation of a CD system on a country-wide scale, organization of the training of mobile units, implementation of the general direction through the agency of territorial authorities, and monitoring of their work.

The Civil Defense Administration consists of a secretariat, a staff, and a mobile columns command. The school (city of Ankara) is subordinated directly to the secretariat. The staff consists of the chief adviser of the chief of the administration (chief of staff) and three advisers, to whom are subordinated their respective sections and the warning and communications service. In addition, the staff is the connecting link of the rayon agencies.

In the rayons, leadership is entrusted to the governor of the vilayet. He is responsible for organizing the operations of the administrative agencies and the CD units, for providing them with equipment, for organizing measures to remedy the consequences of natural calamities, etc.

In the okoliyas, obshtinas and large cities, CD is directed respectively by the chiefs of these okoliyas, obshtinas and municipalities through the agency of CD staffs. In every urban rayon, from two to five safeguarded rayons are set up (according to the number of administrative subrayons), which are headed up by the subrayon chiefs or by officials in the rayon administrations. The

safeguarded rayons are divided into sectors (from four to six), which are directed by senior instructors (these sectors include from 5,000 to 10,000 inhabitants), and each one of the sectors is divided into semisectors (from four to six), directed by instructors (semisectors have from 1,000 to 2,000 inhabitants). The duties of senior instructors are usually performed by the elders of the wards.

The basic units, immediately subordinated to the countrywide CD administration, are the mobile columns. Their main purpose is to remedy the consequences of a nuclear attack and first of all to perform emergency rescue work, as well as to render operational skilled technical assistance locally. Each of the mobile columns consists of three mobile companies and a supply company. The mobile company has five platoons: a rescue platoon, two firefighting platoons, a policy platoon and a supply platoon. In an emergency situation the mobile columns are used mainly in the large cities and industrial centers. They are manned by calling up draft-eligibles to active service. The numerous subunits (staff, rescue, first aid and transportation of the wounded, social assistance, traffic safety and regulation, firefighting, medical and technical assistance) belong to the local regimental or battalion units, organized in all cities and large populated points.

The rescue service directs the rescue-work subunits. A rescue squad (10 men) is set up for every 1,500-3,000 inhabitants. The squads can be combined into platoons (each with six squads), the platoons into companies (each with three platoons), the companies into detachments (each with three companies).

The first-aid and casualty-transportation service includes the respective detachments, each of which consists of two companies: one for first aid, the other for transportation of casualties. The first-aid company includes three platoons (each with six squads), while the casualty-transportation company includes four platoons (each with six squads). A first-aid platoon and a casualty-transportation platoon are set up for every 25,000-50,000 inhabitants.

The social assistance service consists of social assistance companies, set up on the basis of one company per 25,000-50,000 inhabitants. The company consists of three platoons, and the platoons of four squads: one for rationing, one for clothing assistance, one for job placement, and one for collection of information about casualties and damage incurred.

The traffic safety and regulation service is headed up by the chief of the service. A safety service (consisting of three squads) is set up for every 25,000-50,000 inhabitants. Three platoons are lumped into a company. The administration agencies and the service subunits are manned by key employees, as well as by people from the population.

The firefighting service is organized on the basis of rayon fire brigades. They are headed up by the chief of the firefighting administration. In addition, in an emergency situation it is envisaged that three fire brigades (each of 10-20 men) will be set up from the civilian population per 25,000-50,000 inhabitants.

The medical service is responsible for the evacuation of medical establishments into safe rayons and the deployment of first-aid stations and centers and of in-patient hospitals, as well as for the organization of medical assistance for the population.

The technical repair service is staffed mainly by institutional employees for the purpose of keeping an eye on, and repairing municipal services. In an emergency situation it is envisaged that five repair groups will be set up for every 25,000-50,000 inhabitants: one for the electric power system, one for the gas mains, one for the water supply system, one for the sewerage system, one for the telephone and telegraph lines.

In addition to the local regimental and lower units, self-defense units are also set up in the sectors of a senior inspector and an inspector--one civil defense group each, consisting of 12 and eight members respectively (fire-fighting, rescue, medical, etc.). In all dwelling houses with under five occupants a person in charge (the oldest person) is appointed. If the number of occupants is from five to 10, a person in charge of civil defense and a fire warden are appointed; if there are 10 to 50 occupants, a person in charge of civil defense, a fire warden, and a medical orderly. In the larger dwelling houses (15 persons or more), a house crew of four to seven persons is set up; in dwelling houses with shelters, the person in charge of the shelter is also a member of the CD crew.

Both males and females over the age of 15 are enlisted for service in the CD agencies of administration and the regimental and lower units. Those called up for service take 72 hours of training in special courses every year. Legislation provides for the prosecution of persons who refuse to serve in CD agencies.

In the civil defense measures conducted by the Turkish leadership, a great deal of attention is paid to the questions of warning and communications.

Within the CD framework, the country's territory is divided into two warning sectors (corresponding to the air defense sectors), viz., the Eastern Sector (city of Diarbekr) and the Western Sector (city of Eskişehir). In addition to these, there are also warning posts in all air defense control and warning posts.

The CD control and warning system uses chiefly the communications of the Armed Forces, the Ministry of Communications (posts, telephones and telegraphs), and government radio stations.

Electrically and pneumatically actuated sirens are used as the chief means of warning of an alert. In emergency situations (power outage, failure of fixed sirens, etc.), the use of mobile mounts equipped with sirens is envisaged, as well as factory and plant whistles and loudspeakers.

In view of the possibility of terrain contamination with toxic and radioactive substances, Turkey has created a system of radiation-observation and monitoring posts. The chief centers for radiation monitoring and warning of radioactive contamination are situated at air defense operational centers.

Great significance is attached to the evacuation of the population. The decision to evacuate and disperse will be made by the Council of Ministers on the recommendation of the General Staff. The costs of evacuation, accommodation, rationing and job placement of the evacuees will be assumed by the state.

Serious attention is also paid to questions of civil defense organization in industry. In all state and private enterprises situated in especially important areas, harbors, railroad stations and airfields, CD staffs are being set up and chiefs appointed.

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SURVEY FINDINGS ON RURAL FAMILY LIVING STANDARDS

Warsaw WIES WSPOLCZESNA in Polish Jan 87 p 128

[Article by Waldemar Nowak: "The Housing and Material Situation of Rural Families"]

[Text] This material presents one of the topics of a series of studies on the social conditions of rural families. These studies were conducted in 1983-85 under problem W.11.9, "The Status and Changes of Polish Families in 1976-1985". The subjects of these studies were 1831 rural families from Bydgoszcz, Torun, Wloclawek and Pila provinces. The study was based on 1729 questionnaires filled out by 500 peasant families, 386 worker-peasant families, 326 families of state farm and agricultural producer cooperatives [RSP] and 517 nonagricultural families.

Peasant Families

Nearly 80 percent of peasant families have their own homes and 95.6 percent live in single-family dwellings. However, it must be added (and this was also noticed by E. Kozlowski) that this group varied a great deal in its housing which ranged from comfortable, fully-furnished villas to "poorhouses" (1). It is the elderly peasants whose children have left home (16.8 percent) that live in the latter. These farmers have given their land to the state and live on pensions and retirement pay. In the 1970's, the housing situation of rural families was similar and 95.8 percent of peasant families lived in their own house (2).

The sizes of peasant homes are as follows: 37.8 percent of peasant families have houses of 61-100 m² in size, 3.8 percent have homes up to 30 m² and 25.1 percent of families have homes over 100 m² in size. It is worth pointing out that only 17 percent of worker families have homes larger than 60 or more square meters. The average size of worker homes is also smaller (46.5 m² as opposed to 60.3 m² for peasants) (3).

Most peasant families have four- (34.3 percent) or three-room (33.2 percent) houses. About 29 percent of the studied families had houses with 5-7 rooms while only 2.1 percent had two-room houses (see table 1).

Studies conducted by M. Jarosz, E. Kozlowski and W. Urbanska show that most worker families have one-, two- or three-room dwellings (4).

82.9 percent of peasant families had their own kitchen and only 68 percent had a private bathroom. 37.1 percent of homes used bottled gas and 52.6 percent had central heating. These figures are much higher than those obtained by B. Galeski in the 1970's (which were 2.3 percent and 5.4 percent, respectively) (5).

Our research shows that most peasant family dwelling were well-equipped with consumer goods: 98.9 percent had a radio, 79.3 percent a television (with 31.3 percent having a color television), 98 percent had a refrigerator, 86.1 percent a washer (with 33.3 percent having an automatic washer), 83.7 percent had a vacuum cleaner, 60.2 percent a sewing machine, 45.9 percent a motorcycle, 45.9 percent an automobile and 19 percent had a stereo system (table 2). Having studied the number of home appliances, B. Galeski said that there are great differences between the furnishings of rural and urban households (6). Our own studies show that these differences have diminished somewhat and that rural households have only a little less objects of permanent use than do urban households.

Analysis of the budgets of peasant families leads one to the conclusion that they have not changed much since they were studied by S. Mierzejewski (7) and M. Gorczyca (8).

Generally speaking, the peasant families we studied assessed their own material situation as average (table 3). They therefore confirmed the interpretation that an assessment of one's own material situation depends on the amount of household production, education and age of the head of household, place of residence as well as the number of family members. The studies prove that there is an ever-growing polarization of income and increasing differences in the economic situation of peasant families.

Peasant-Worker Families

More than 76 percent of peasant-worker families had their own home and 21.5 percent lived with their parents. 88.5 percent of the studied peasant-worker families had a single-family dwelling, 3 percent had a villa and 4.3 percent lived in an apartment house. Dwelling sizes were as follows: 36 percent had homes of 61-100 m², 35.6 percent were 41-60 m² and only 5.2 percent had small homes of up to 30 m². 12.4 percent of the subjects lived in large dwellings (over 100 m²). Furthermore, 37.3 percent of peasant-worker families lived in four-room homes and 32.6 percent had three-room dwellings. More than 23 percent of the homes had 5-7 rooms and only 3 percent were two-room houses (table 1). 87 and 58 percent of the studied families, respectively, had their

own private kitchen and bathroom. Only 38.3 percent of the households were equipped with gas, 39.9 percent had central heating and 6 percent had a telephone. We must also add that 27 percent of peasant-worker families still lived in a wooden houses and 13 percent had homes with thatched roofs (9).

It was established that most households were well furnished with permanent-use consumer goods. Thus, 93.3 percent of the peasant-worker families had a television (7.3 percent had a color television), 92.5 percent had a radio, 89.4 percent a refrigerator, 83.9 percent a washer (13.8 percent had an automatic washer), 53.1 percent had a sewing machine and 90.1 percent had a vacuum cleaner. 55.4 percent had a motorcycle, 24.7 percent had an automobile and 19.2 percent (10) had a stereo system (table 2).

Out of planned purchases, the most frequent items were an automatic washer (26.4 percent), automobile (13 percent), food processor (12.7 percent), sewing machine (12.2 percent) and stereo equipment (4.4 percent).

Families with larger farms (21-30 ha and more) and especially those specializing in crop cultivation, livestock and fruit planting had larger and better-equipped homes. The owners of large farms often stated that they are completely (73.6 percent) or almost completely (20.7 percent) equipped with permanent use goods. The same group also planned to buy luxury goods such as a personal automobile, color television and stereos.

I also analyzed the budgets of peasant-worker families. Respondents indicated two sources of income which were farming and professional employment. Thus, 30.1 percent of respondents said that 25 percent of their income came from farming, 36.5 percent claimed 26-50 percent, 25.4 percent claimed 51-75 percent and 2.6 percent of respondents said that 100 percent of their income came from farming. Similarly, 26.2 percent of respondents claimed that 25 percent of their income came from professional employment, 36.5 percent claimed 26-50 percent, 28.8 percent claimed 51-75 percent and 4.4 percent of the respondents claimed that 76-100 percent of their income came from work outside of the farm. We also noticed that a large farm produces a large income when nonagricultural income is low. The same conclusion also applies to specialized farms. The peasant-workers from large and specialized farms admitted in many cases that employment in state enterprises were more important as a source of social benefits than as an income source.

The essential factor determining the level of income on peasant-worker farms is the way in which they are managed. A relatively large number of farms (75.4 percent) do not specialize in any one field. Out of the 24.1 percent of specialized farms, 10.9 percent are involved with livestock, 6.7 percent with grain cultivation, 6 percent with horticulture and 1.3 percent with fruit-farming.

Returning to the problem of incomes, I would like to add that 64.5 percent of the studied peasant-worker families felt that their earnings were sufficient (table 3). None of the respondents with farms of 16-30 ha felt that their

income was too low. As much as 83.3 percent of the livestock producers and 82.6 percent of the horticulturalists felt that their incomes were satisfactory. Respondents from small farms (40.7 percent with farms under 2 ha and 38.3 percent with farms of 3-5 ha) chiefly involved with crop cultivation felt that their income was too low.

These are the assessments of their own situations given by peasant-workers. Thus, 34.5 percent of this group felt that their conditions had improved while 10.4 percent felt that they had deteriorated. In the opinion of 53.1 percent of the respondents, their material well-being was unchanged. The respondents that most often said that their standard of living had improved were those that had 11-15 ha farms (50 percent), 16-20 ha farms (75 percent) and 21-30 ha farms (100 percent) as well as those who have specialized in livestock (66.7 percent), horticulture (47.8 percent) and fruit-farming (40 percent). Along with farm size, machinery, equipment and training were also significant factors. This group of peasant-workers above possessed tools and balanced household budgets and more willingly took loans for farm investment.

State Farm Employees and Members of Agricultural Producer Cooperatives

Our studies showed that about 74 percent of the state farm families and 73.8 percent of the RSP families had their own home. Most families had the necessary housing conditions to conduct an independent farm. The remainder (26 percent in the state farms and 26.2 percent in the RSP) did not have an independent dwelling. These were most often young married couples. However, many couples married for as long as 10 years also did not have their own home. This situation was more often found in the RSP than in the state farms.

W. Dzun, studying the housing situation of state farm workers throughout Poland, determined that 75 percent of the farm employees had a house but also found out that the situation was unsatisfactory as there were serious problems with the amount and quality of housing. Many of the houses were in bad technical conditions and required renovation (11).

About 43.2 percent of the families of state farm workers possessed three-room dwellings, 25.8 percent had two-room homes, 21 percent had 4-room homes, 5.7 percent had 5- and 6-room dwellings and 1.8 percent had 1-room homes (see table 1). The average number of persons per room was 1.86 in state farms and 1.52 in the RSP.

In compiling data on living area and the number of state farm families, we noticed a poor correlation between the size and structure of dwellings and the family structure. 91.4 percent of the families had four members or more and only 28.8 percent of the housing so it can be said that housing construction was inappropriate to the needs of the state farm families. The respondents suggested that more single-family dwellings be built as soon as possible.

The living area occupied by the families of socialized farm workers was as follows: 6.3 percent of the respondents had up to 30 m² of housing, 75.8

percent had between 41 and 60 m², 11.1 percent had 61-100 m² and 1.8 percent had more than 100 m² (table 1). Both peasant and peasant-worker families in predominantly single-family dwellings more living room. At the same time, 78 percent of state farm and RSP workers lived in apartment houses. 17.7 percent of these workers had a single-family dwelling and only 1.8 percent owned a villa. 68.4 percent of their homes were almost totally furnished with permanent use goods, 24.3 percent were completely furnished, 3.9 percent were half furnished and 0.9 percent were only slightly furnished. This is a standard slightly lower than those of the peasant and peasant-worker families and urban families (12).

With regard to the material status of the families of socialized farm employees and especially their level of income, 29.1 percent of the respondents found it satisfactory while 68.4 percent felt that it was unsatisfactory (table 3). Their financial state was as follows: 54.3 percent had a balanced budget, 22.8 percent had savings and 20.1 percent were in debt. 21.9 percent felt that their living conditions had improved and 16.5 percent felt that they had worsened. About 60 percent of the respondents stated that their living conditions had not changed.

In state farm and RSP families as in other rural families, a fairly high level of possession of permanent-use goods had been attained (91.2 percent owned a radio, 90.3 percent a refrigerator, 84.9 percent a television, 86.2 percent a washer, 84.9 percent a vacuum cleaner, 50.1 percent a sewing machine, 33.6 percent an automobile and 48.2 percent a motorcycle) (table 2). These families have achieved a standard of consumer good possession equal to that of urban families and this has been confirmed by data compiled by Z. Tyszka (13). In these studies, the families with the highest level of consumer good ownership were those of craftsmen in large cities and the technical intelligentsia.

Nonagricultural Rural Families

The housing situation of nonagricultural families is generally good. Nearly 88 percent of them have their own home. The situation is worse for the families of state and economic officials and employees of agricultural and health services. Teachers, goods and services employees and physical laborers have the worst situation. This is especially true for young families who have not been together for more than 5 years. The lack of housing for young teachers is especially bad and after two to three years of work, they often migrate to the cities and therefore weaken rural education.

Nonagricultural rural families most often have three-room (48.2 percent) and 5-room dwellings (20.1 percent). 18.6 percent have two-room homes and 11 percent have 4-room homes. Most of these families live in dwellings of 41-60 m² (57.8 percent) and are followed by 22.3 percent with homes of more than 60 m², 18.2 percent with 21-40 m² and 1.7 percent with homes of up to 30 m². About four percent of the respondents had homes larger than 100 m² (table 1). About 80 percent of respondents said that they had changed homes and that

their previous dwelling had been considerably worse. Only 21.2 percent had not changed dwellings. Within the group that had moved, migration had occurred chiefly within the same village (69.2 percent). 9.7 percent of the respondents had formerly lived in a city. The type of housing occupied by this group was 56.2 percent in single-family homes, 37.2 percent in cooperative housing and 6.6 percent in villas.

As a rule, the homes of nonagricultural rural residents are very well furnished. This is chiefly true of the families of doctors, veterinarians, state and economic officials and goods and services employees. The homes of teachers, agricultural services employees and physical laborers are average in furnishings. The greatest growth in the possession of consumer goods was noted among doctors, veterinarians, economic and state officials and goods and services employees. They predominantly owned prestige goods such as automobiles, color televisions, automatic washers and stereos (see table 2). Using Maria Jarosz's classification (15) and dividing permanent-use items into the two groups of the basic and higher standard of furnishing, we can say that 56.8 percent of nonagricultural families enjoy the higher standard. About 10 percent of the studied families starting a professional career had a minimal standard (with no more than three basic standard items such as a radio, black-and-white television and a washer). Our studies confirmed the advantage held by nonagricultural families and especially white-collar families over peasant and peasant-worker families as well as the families of employees in the socialized sector. This advantage is most obvious in the possession of so-called luxury goods which are an indicator of the urban lifestyle. Despite the fact that these families live in rural areas, they live much the same as urban families.

In conclusion to this communique from our research, I quote M. Jarosz: "Rural families are considerably more poorly-equipped in permanent-use articles than urban families. Their predominant household goods are those of the basic category and a total of 70 percent of these families have articles of this class while 25 percent have no more than three of these basic-standard articles. The corresponding figures for city dwellers are 34.2 and 3.6 percent, respectively. 9 percent of rural families have a higher standard of furnishings (27 percent of urban families). 82.7 percent of rural families have the minimum standard of household furnishings" (16). To complement and correct M. Jarosz's diagnosis which was made on the basis of data from the 1970's and 1980, it must be said that in 1981-85, there was an increase in the number of consumer goods and above all in the availability of basic-standard items.

The studies have also revealed an increase in the possession of luxury goods in all types of rural families and especially in the nonagricultural class. Available statistics also include the following information: 50.3 percent of the responding nonagricultural families felt that their achieved income level was insufficient while 48.9 percent felt their incomes to be sufficient (see table 3). About 44 percent of the subjects informed us that they take loans, 10.8 percent is credit and 2.2 percent from allowances. More than 13 percent

had debts and 61.1 percent said that their material conditions had not improved over the last three years. In spite of that, respondents and especially the young ones planned to buy an automobile (27.3 percent), furniture (46.3 percent), a color television (14.6 percent), an automatic washer (19.8 percent) and have a telephone installed (12.2 percent).

Like other rural families, the nonagricultural families had a great need to buy permanent-use items both in the basic and luxury categories.

The present article considers only part of the problems associated with certain elements of the living conditions of rural families. Other problems will be presented in separate publications.

Table 1. Size of Rural Family Dwellings (in percent)

Type of family	Number of rooms					Living area (in square meters)			
	1	2	3	4	5-7	0-30	41-60	61-100	over 100
Peasant	0.2	2.1	33.2	34.3	28.8	3.8	33.3	37.8	25.1
Peasant-worker	4	3	32.6	37.3	23	5.2	35.6	26	12.4
State farm and RSP employees	1.8	24.8	43.2	21	5.7	6.3	75.8	11.1	1.8
Nonagricultural	0.8	18.6	48.2	11	20.1	15.8	57.8	22.3	4.0

Table 2. Household equipment of permanent-use items (in percent)

Type of family	Radio	Tele-vision	Refrigerator	Washer	Vacuum cleaner	Sewing machine	Motor-cycle	Auto-mobile	Stereo
Peasant	98.9	79.3	98.0	86.1	83.7	60.2	45.9	45.9	19.0
Peasant-worker	92.5	93.3	89.4	83.9	90.1	53.1	55.4	24.7	19.2
State farm and RSP employees	91.2	89.4	90.3	86.2	84.9	50.1	48.2	33.6	21.2
Nonagricultural	99.1	98.2	98.1	98.2	99.3	70.2	31.3	68.6	42.5

Table 3. Evaluation of the material situation (in percent)

Type of family	Question: Is your income sufficient?			
	Answers: yes	fairly sufficient	not entirely	no
Peasant	40.0	25.8	18.3	10.0
Peasant-worker	30.0	34.5	18.9	10.0
State farm and RSP employees	15.1	14.0	38.4	30.0
Nonagricultural	30.0	18.9	25.3	25.0

FOOTNOTES

1. E. Kozłowski, "Charakterystyka struktury społecznej i społeczno-zawodowej oraz warunków mieszkaniowych podstawowych grup w Polsce w 1978 r." [The Characteristics of the Social and Socioprofessional Structure and Housing Conditions of Basic Social Groups in Poland in 1978] from "Polozenie klasy robotniczej" [Position of the Working Class], vol 2 "Kwestia mieszkaniowa" [The Housing Issue], edited by P. Wojcik, ANS, Warsaw, 1984. See also W. Dzun "Społeczno-przestrzenne zróznicowanie warunków mieszkaniowych na wsi" [Social and Regional Differences in Rural Housing Conditions], WIES I ROLNICTWO, No 4/1983.
2. B. Galeski "Gospodarstwo domowe rodzin wiejskich" [Households of Rural Families] from "Rodzina polska lat siedemdziesiątych" [The Polish Family of the 1970's], edited by M. Jarosz, PWN, Warsaw, 1982, p 87.
3. M. Jarosz, "Warunki materialne rodzin robotniczych" [Material Conditions of Working-Class Families], from "Rodzina polska lat siedemdziesiątych" [The Polish Family of the 1970's], edited by M. Jarosz, PWN, Warsaw, 1982, p 78-79.
4. M. Jarosz, "Warunki materialne...", E. Kozłowski, "Charakterystyka..." and W. Urbanska, "Warunki mieszkaniowe robotników zatrudnionych w dużych zakładach przemysłowych" [Housing Conditions of Blue-Collar Workers Employed in Large Industrial Establishments], from "Polozenie klasy robotniczej" [Position of the Working Class], vol 2 "Kwestia mieszkaniowa" [The Housing Issue], edited by P. Wojcik, ANS, Warsaw, 1984.
5. B. Galeski, "Gospodarstwo domowe..."
6. B. Galeski, "Gospodarstwo domowe..."

7. S. Mierzejewski, "Sytuacja materialna gospodarstw domowych w swietle badan opinii" [Household Material Situations in the Light of Opinion Research], WIES WSPOLCZESNA, No 2/1985.
8. M. Gorczyca, "Budzety chlopskich gospodarstw domowych w 1981 roku" [Peasant Household Budgets in 1981], WIES I ROLNICTWO, No 3/1983.
9. T. Czyzyk, "Preobrazenia rodzin chlopsko-robotniczych na tle dwuzawodowosci" [Changes in Peasant-Worker Families With Two Professions], Bydgoszcz, 1985 (typewritten copy of a report within problem W.11.9).
10. B. Galeski, "Gospodarstwo domowe...".
11. W. Dzun, "Problemy mieszkaniowe zalog PGR" [Housing Problems of State Farm Employees], WIES WSPOLCZESNA no 2/1982, pp 72-73.
12. Z. Tyszka, "Rodziny Wspolczesne w Polsce" [Contemporary Families in Poland], Warsaw, 1982, pp 66-80.
13. Z. Tyszka, "Rodziny Wspolczesne...", pp 70-79.
14. M. Jarosz, "Nierownosci spoleczne" [Social Inequalities], Warsaw, 1984, pp 94-98.
15. M. Jarosz, "Nierownosci spoleczne", p 97.
16. 16. M. Jarosz, "Nierownosci spoleczne", pp 99-100.

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